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Original Articles

ANKYLOSIS.

ARTHROPLASTY—CLINICAL AND EXPERIMENTAL.*

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The subject of ankylosis and its treatment presents many problems for consideration. In order immediately to emphasize the salient points of the subject, we will ask some questions: What are joints? What is the embryology of joint formation? What is the pathologic histology of acquired arthroses or false joints? What is the pathology of hygromata (acquired endothelial lined sacs)? Can they be produced artifically? What is ankylosis? What are the pathologic and anatomic changes included in the term? What tissues are involved? From a practical standpoint, into what classes may it be divided? When ankylosis has formed, what are the limitations of surgery for its relief? Can we re-establish a movable, functionating joint with synovial lining? Can we restore motion and to what degree? In what class of cases can the best results be secured? Can we for the future promise better than the flexible, fibrous unions that we have secured in the past?

These were the questions that most forcibly presented themselves when I began the investigation of this subject in July, 1901. Subsequent experience has shown that, from a clinical standpoint, the majority of these have been answered favorably. Experimental work on joints in dogs is unsatisfactory on account of the difficulty in controlling infection and motion. A preliminary report of this work with demonstration of one of the cases was made to the Chicago Surgical Society at Mercy Hospital, October, 1902.

EMBRYOLOGY OF JOINTS.

From a practical standpoint the classification of joints is as follows: The synarthrosis, the amphiarthrosis and the diarthrosis. The subdivisions of the latter, the ginglymus (elbow, ankle, wrist, etc.), the ginglymo-arthrodial (knee, temporo-mandibular), and the enarthrodial (shoulder and hip) are the only joints which concern us in this class of surgical work. The types of motion which are present in these joints are the hinge and ball and socket, which are the sliding and rotary motions of the forearm, shoulder and hip; the two latter are the most favorable for the restoration of motion after ankylosis, as the degree of sliding motion is extremely limited compared with that of the elbow and knee. The histology of joint formation is best illustrated by the works of Hertwig, Meyer and Gegenbaur and may be summed up as follows:

Diarthrosis is a differentiation of primitive synarthrosis of which it is a transformation. This mode of union exists almost exclusively between parts of the skeleton and is preceded by preformed cartilage during their development. When a joint is formed between two bones which are not developed from primordial cartilage, it is formed secondarily from cartilaginous tissue between the rudiments of these bones.

The origin of joints seems to be in connection with the differentiations and perfection of the cartilaginous parts of the skeleton. These are separated for a long time by interposed indifferent tissue (Fig. 1, A). At the same time that the cartilaginous elements of the skeleton increase, the interposed connective tissue which separated them at first, is itself transformed into cartilage and disappears. Figure 1, B, shows the beginning of this cartilage formation at the expense of the interposed connective tissue.

At the end, the two terminal cartilaginous surfaces of the two skeletal organs are found in immediate contact; they each have a predetermined form, characteristic for each joint. The two contiguous extremities of the skeletal parts are found separated by a mass of cartilaginous tissue, formed at the expense of the primary intermediate tissue (Fig. 2).

A slit, at first very delicate, soon appears in this intermediate cartilage, and divides it into two layers, one and the other applied against the terminal surfaces of the cartilaginous skeletal parts. These layers constitute the articular cartilages (Fig. 3, A). At the same time, the slit has become more extensive—the joint cavity; it separates the articular surfaces of the two bones. Externally, the joint cavity is limited by connective tissue extending from one skeletal piece to the other. This connective tissue is continuous beyond the joint surfaces with the periosteum (perichondrium) of the two developing bones. It is this connective tissue surrounding the joint cavity which gives rise to the joint capsule (Fig. 3, B). The external layers of this tissue are differentiated into a fibrous membrane, generally tough, called the capsular ligament, and an inner softer layer turned toward the joint, which it bounds; it is richly vascular and constitutes the synovial membrane.

The capsular ligament is not equally developed over its whole extent. It remains thin in certain places, and thickens on the contrary in others, so as to form bundles of more rigid fibers. These bundles develop in a given direction, acquire a variable freedom, and may even become completely separated from the capsular ligament. Thus are formed the accessory or auxiliary ligaments.

The intermediate interposed tissue, which existed in the rudimentary joint, is not always entirely used up in the increase of the articular ends of the bones. When the joint surfaces do not correspond closely to each other, remnants of this tissue persist at the periphery of the joint cavity united to the synovial membrane of the capsule. These remnants project into the joint

* Read before the American Surgical Association, St. Louis, 1904.

cavity and constitute prolongations or folds of the synovial membrane.

In other cases, the differentiation of the contiguous articular ends does not go so far. The two articular surfaces do not touch over their whole extent, but only a part of it; in this case a larger part of the intermediate tissue persists in the joint capsule. The joint surfaces are thus more or less discordant. This intermediate tissue is then transformed into fibro-cartilage and constitutes an organ which on cross section is semilunar in shape (Fig. 3, A).

In some cases, a continuous joint cavity is not formed, the embryonic intermediate tissue being less utilized in the formation of the articular cartilages. Before the transformation of the articular surfaces in contact can

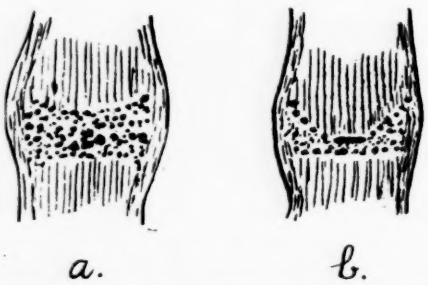

Fig. 1.—(*a*) Indifferent tissue interposed between ends of developing bones. (*b*) Beginning cartilage formation in interposed tissue (Gegenbaur).

Fig. 2.—Cartilaginous tissue between ends of developing bones (Gegenbaur).

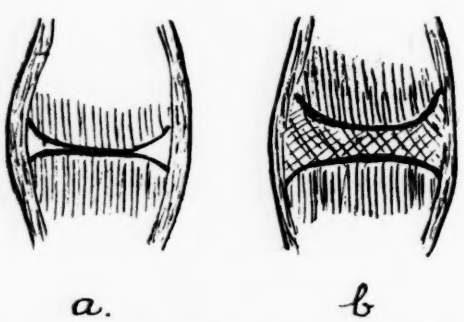

Fig. 3.—(*a*) Joint cavity and articular cartilages formed by division of intermediate cartilage. (*b*) The external connective tissue, which is continuous with the intermediate tissue, forms the joint capsule (Gegenbaur).

take place, a slit appears between the joint surfaces and the intermediate tissue, which develops into a joint cavity. It follows, then, that each of the articular ends will be lodged in a special joint cavity, separated from the one containing the other bone by a layer of intermediate tissue. This latter is finally transformed into an interarticular cartilage, separating the two articular cavities of the same joint, as in the temporomaxillary articulation (Fig. 4). These interarticular cartilages may be continuous or discontinuous. When they are discontinuous, as is the case with the semilunar cartilages, the two special joint cavities are incompletely separated from each other. When they are continuous, on the contrary, the joint cavities are completely separated by them. In both cases, they are the remains of the primitively continuous intermediate tissue.

The first stages of joint development occur during fetal life, when no muscular action is present. The characteristic feature and disposition of the joint surfaces are already formed before the joint can functionate. The final transformation, i. e., the extension of the joint cavity, etc., only occurs after the joint is put to use. It is determined by the skeletal movements and by muscular action.[1]

EMBRYOLOGY OF JOINTS.

The wrist and ankle have a purely endochondral ossification,[2] the cells of connective tissue grow into the cartilage from the perichondrium, dissolve the matrix of cartilage and unite with one another in the center, and there arises a network of medullary (marrow) cavities, in the vicinity of which there is a deposit of salts of lime (a provisional calcification). The medul-

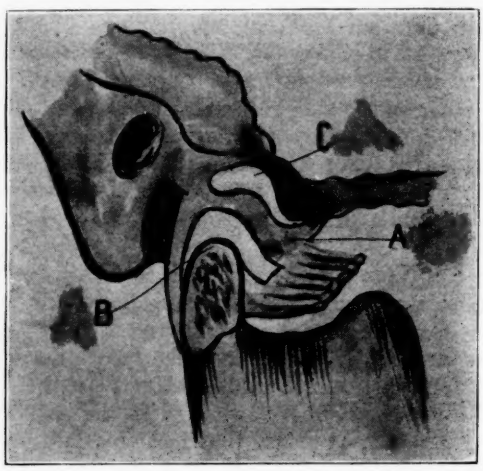

Fig. 4.—This shows the interarticular cartilage, (A) separating the joint into two distinct cavities, B and C temperomaxillary articulation.

lary spaces extend farther and farther by destruction of the cartilaginous substance; then there are formed by the superficially located medullary cells, bone lamellæ, which gradually increase in thickness. The osseous nucleus thus formed slowly increases in size, until finally the cartilage is almost entirely replaced, only a thin layer of it remaining at the surfaces as a covering for the bone.

The question whether the extremities of bones, the articular surfaces, are subject as far as their form is concerned to mechanical laws only, has been much discussed. According to Bernays,[3] the early and typical form of joints appears to be a matter of heredity. The muscles also have a decided influence on the later forms of articular surfaces.

According to His, the development of the body of vertebrates in the ovum is determined and controlled by mechanical laws, while Haeckel considers heredity as a determinant factor.

1. Gegenbaur: Zur Morphologie der Gliedmassen der Wirbelthiere, Morphol., vol. ii, 1876.
2. Hertwig-Mark: Text-Book of Embryology.
3. Bernays, A.: Die Entwickelungsgeschichte des Kniegelenks des Menschen, und Bemerkungen über Gelenke im Allgemeinen.

L. Fick[4] states that at the end of the second month, the joints show a tendency to shape, still "the greatest irregularity exists in the form of articular surfaces." There are not two joints alike at that period, among the articular surfaces of phalanges.

In regard to the question, what determines the form of articular surfaces, Fick has shown in his monograph that muscular activity is responsible for the peculiar form of the different articular surfaces. By experimenting on young dogs, he has noticed that the section of muscles is followed by a change in the form of the corresponding articular surfaces and also of the interarticular space. By experimental immobilization of the joints of growing dogs, the space and form of articular surfaces was changed; the interarticular line became irregular.

As to the question why it is that one extremity of bone becomes a prominent surface, while the next extremity of bone becomes an articular cavity, several explanations are given.

Fick says that beside the muscular activity, on account of more active circulation, the multiplication of cells is more marked in one end than in the other, so that it penetrates the latter and forces it to excavate.

Henke and Reyher[5] explain this by the fact, that the muscles force the bone, on which the insertion is nearer to the articular surface, against the other bone, on which the insertion is further from the interarticular line, so that it determines the formation of a cavity by means of pressure in the former.

The essential phenomena, says E. Retorer,[6] concerning the formation of the joint cavity take place when the cartilaginous segments are nearly in contact and before there is any articular slit. We find that at this stage the superficial layers of the cartilaginous segments are not yet free; the flattened and crowded cells limiting these segments are succeeded by a much clearer connective tissue. This is made up of fusiform and stellate cells, whose numerous prolongations enclose meshes filled with Wharton's jelly. In other words, the embryonic connective tissue which is not transformed into cartilage has developed into mucous connective tissue, the interval between the cartilaginous segments where the future joint will be. Little by little, these meshes become larger and larger, the prolongations of the cells more and more thinned; the cell body less and less clearly outlined, staining with difficulty. In short, the cells with their prolongations atrophy and with the nuclei disappear, and at the same time, the joint surfaces become free. By undergoing mucoid transformation in the interval between the cartilages, the embryonic connective tissue gives rise to the first synovial fluid. On the inner side of the joint capsule, the connective tissue persists as closely packed elements and gives origin to the synovial membrane which is lined with many tiers of flat cells.

Hence there are the following stages in the formation of a joint cavity:

1. Existence of an embryonic connective tissue with closely packed cells.
2. The production of fusiform and stellate cells whose prolongations anastomose.
3. Elaboration of mucoid substance in their meshes.
4. Atrophy of the cellular elements and their prolongations.

The joint cavity succeeds the evolution of this embryonal connective tissue, which, in place of producing cartilage or bundles of areolar tissue, elaborates the mucoid substance giving rise to the first synovial fluid.

Every joint begins by a stage where the segments present are bound together by a compact tissue, which establishes their continuity. While most joints remain thus, we see in movable joints this connective tissue persisting only at the capsules, ligaments, etc., which becomes fibrous, fibro-cartilaginous, or even osseous tissue.

At the places were the skeletal segments come in contact, however, their continuity is changed into contiguity, because the thin layer of intervening connective tissue has disappeared by mucoid degeneration. In other words every diarthrosis passes through a transition state which may be compared with an amphiarthrosis..

HYGROMA-BURSA.

While in the embryology of joint formation, always primarily formed without a cavity, a splitting or liquefaction of cartilaginous or connective tissue between the cartilages takes place, the superficial bursæ are made by the same splitting between fat capsules (subfascial) on aponeurotic mesoblastic tissue.[7] Fat tissue rapidly or easily changes to connective tissue. Bursa formation is due to the absorption of fat from fatty tissue and the coalescence of the small fat capsules with an increase or hyperplasia of the connective tissue and its degeneration with the development of collagen.

It is the solution of liquefaction of the collagen in the center that forms (fibrinoid—a degeneration product) the fluid in the cavity of the bursa. The fluid is a liquefied collagen, not a secretion from the surface of the cavity (serous) as Virchow taught. The "rice bodies" are dead proliferations of partially developed tissue or fibrin of the small villi or *"zotten."*

Hygroma is, then, the result of a degenerative or absorptive process in fatty tissue with hyperplasia of the connective tissue element, the segmentation of the collagen into solution, "fibrinoid," a liquefaction of hypertrophied connective tissue. The cells lining the newly developed cavity appear as flattened endothelial cells; these are really transformed connective tissue cells.

The hygroma has no vessels and, therefore, can not become inflamed. It may be the center of phlegmon and necrosis, but it is not itself a part of the process. (It can not be cured by drainage unless necrosis takes place, but it can be cured by extirpation.) Hygromata and ganglia are the combined products of liquefaction of hypertrophied connective tissue.

In the artificial development of joints, it is important to utilize these facts. The aponeurosis that is to be used in the construction of artificial joints should have in it a considerable quantity of fatty tissue, which when subjected to pressure forms the hygroma. This is not infrequently seen in the nonunion of fractures in the shafts of the long bones, forming what is known as the "false joint" or "interosseous sac." It is the recognition of this pathologic condition that has led to its utilization in arthroplasty. That this sac with lining resembling endothelium is formed, was demonstrated beyond question in animal experiments reported later.

EXPERIMENTS.

1. Large white dog. Operated on Dec. 15, 1903. Operation: (*a*) U-shaped incision over right hip.

4. Fick, L.: Ursachen der Knochenformen, 1857.
5. Henke und Reyher: Sitzung. der k. k. Wiener Akademie, 1875, vol. lxx.
6. C. R. Soc. de Biologie, 1894, p. 862.
7. Langemak: Arch. klin. Chir., vol. lxx, No. 4, p. 946.

(*b*) Skin and fascia lata reflected upward.

(*c*) Great trochanter divided by chain saw and upper fragment, with muscles, reflected upward.

(*d*) Head of femur dislocated from acetabulum.

(*e*) Cartilage gouged out of acetabulum and removed from head of femur.

(*f*) Fascia lata so dissected from skin flap that it is brought down in front of muscles attached to great trochanter.

(*g*) Fascia lata sutured, by kangaroo tendon, about neck of femur so that muscular surface of fascia lata lines the inner surface of the acetabulum.

(*h*) Edges of fascia then drawn together over head of femur, thus capping same—kangaroo tendon sutures.

(*i*) Head of femur returned into the newly lined socket.

(*j*) Upper fragment of trochanter sutured to lower.

(*k*) Skin returned and sutured in place—horsehair.

(*l*) Collodion dressing.

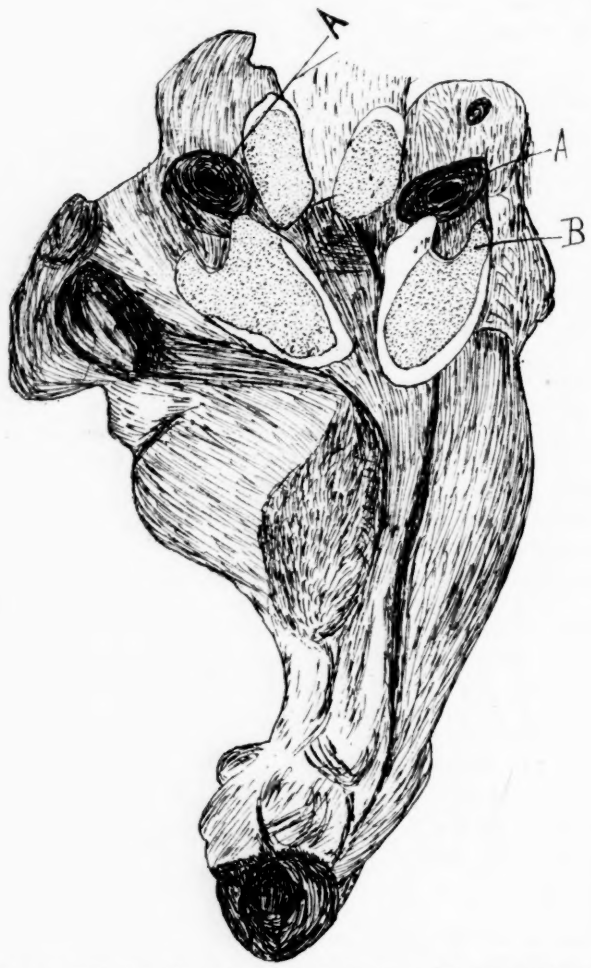

Fig. 5.—Section through neck of femur. AA represents the new collogen cavities, and B the split neck of femur.

The dog did not use the extremity operated on at all in locomotion. The thigh was carried slightly flexed on the abdomen. The dog was killed with chloroform, April 12, 1904, and after death, free passive movement was demonstrated in every direction. A complete dissection of the joint was made, and the following conditions noted: The muscles about the joint were atrophied, and there was considerable scar tissue formation at the site from which the flap was dissected, and around the joint. Interposed between the upper extremity of the femur and the acetabulum there was a small sac with a smooth lining. (Fig. 5.) It contained a small amount of slightly turbid sticky fluid. Its total surface was about that of the normal acetabular cavity. The end of the shaft of the femur where the cartilage had been taken off was smooth and covered by the newly formed synovial endothelium-lined membrane. About the sac there was a moderate amount of newly formed connective tissue. Sections were made from the sac wall and examined under the microscope; they showed on the inner surface a well formed endothelial lining. (Fig. 6.) The nuclei of the cells were elongated and the cytoplasm stretched out so as to form a thin homogeneous membrane. Beneath this one celled layer was a vascular connective tissue matrix with cells lying in all directions. There were a large number of polymorphonuclear leucocytes present, probably indicating a recent inflammatory reaction.

2. Black and white dog, male, weight about 30 pounds. Operated on Dec. 8, 1903.

Steps of operation: Placing of fascia lata in hip joint to determine subsequent changes in fascia.

1. U-shaped incision over hip joint concavity upward an inch above great trochanter.

2. Incision through fascia below area of fascia, cut greater than that of skin.

3. Retraction of skin and fascia in one flap.

4. Great trochanter severed by chain saw and upper fragment, with attached gluteal muscles, retracted.

5. Capsule of joint incised and excised.

6. Head of femur dislocated from acetabulum.

7. Cartilage in acetabulum gouged out.

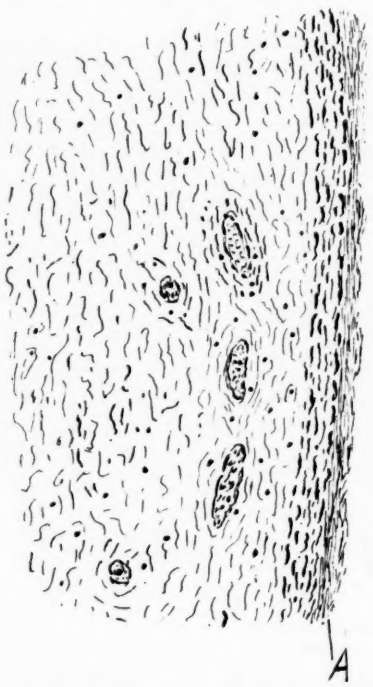

Fig. 6.—Shows the layer of elongated endothelial cells (A) which lined the new capsule formed in the case of Experiment No. 1.

8. Cartilage on head of femur bitten off with cutting forceps.

9. Fascia lata on under side of skin so dissected that it was swung down in front of the gluteal muscles attached to trochanter—the fascia retaining its attachment by a fairly broad pedicle.

10. Fascia carried into acetabular socket and sutured with kangaroo tendon to posterior surface of neck of femur, the muscular surface of the fascia lata being in contact with the acetabulum, while the outer surface came in contact with the head of the femur.

11. Head of femur rotated back into its newly lined socket.

12. Another kangaroo suture passed through the fascia and the periosteum over the still intact part of the greater trochanter in order to anchor the flap still more securely.

13. Two parts of greater trochanter approximated with kangaroo tendon.

14. Collodion dressing.

Condition Dec. 12, 1903: Wound clean, no tenderness, dog does not eat very well, hobbles about a little. Dog died Dec. 20, 1903. Postmortem findings: (a) Head of femur

dislocated from acetabulum; (b) fascia lata sloughed away; (c) muscles and joint filled with pus.

ANKYLOSIS.

Ankylosis is a generic term and does not represent a pathologic entity. It is due to varied pathologic conditions; it involves many tissues, either separately or combined and may be classified as follows:

- Ankylosis (true and false).
  - Periarticular
    - Capsular
    - Extracapsular
      - Tendinous
      - Tendovaginal
      - Muscular
  - Articular
    - Synovial-Fibrosis
    - Cartilaginous
    - Osseous

In the particular variety, in which the capsule is the seat of the disease which produces the immobilization of the joint, the capsule is infiltrated, indurated and adherent throughout the margin of the joint, thus limiting the motion. The extracapsular varieties include the inflammations and adhesions of the tendons and tendon sheaths, as well as the muscular agglutinations, at and close to the joint. They may not include the capsule at all, the entire restraining structure being extracapsular. These lesions differ entirely from the articular variety of ankylosis, in which the lesion is in the synovial membrane which has lost its endothelial lining and has undergone fibrosis and transarticular union.

The cartilaginous variety exists when the synovial membrane has undergone complete destruction, and when there is a union of the cartilage or cartilaginous remnants with no vestige of the synovial structure remaining.

The most serious type of ankylosis is that in which the synovial membrane and cartilage both have disappeared and in which osseous union has taken place between the opposing bone ends.

The last three types of ankylosis will more particularly concern us in this paper.

ARTHRITIS.

The types of arthritis which lead to the varieties of ankylosis mentioned above may be classed as follows:

- Arthritis...
  - (a) Primary hematogenous fibrous arthritis
  - (b) Dry fibrous arthritis. Non-traumatic
  - (c) Traumatic fibrous arthritis
    - With fracture into joint
    - Without fracture—Contusion
  - (d) Suppurative
    - Hematogenous
      - Cryptogenic
      - Metastatic
        - Typhoid
        - Scarlatina
        - Pyemia
        - Gonorrhea
      - Traumatic
    - Extension
      - Osteitis
        - Tuberculous
        - Osteomyelitic (Infective)
      - Periarthritis—Phlegmon
      - Panarthritis
  - (e) Ossifying arthritis. Primary
  - (f) Static adhesive

The primary hematogenous fibrous arthritis is usually ushered in with a chill, followed by intense pain and sensitiveness in one joint, rarely more, accompanied by a high temperature and pronounced manifestations of sepsis, with only moderate effusion into the joint cavity. The diagnosis is usually monarticular rheumatism. It is not a rheumatism in the common acceptance of the term, either in its etiology, clinical course or final result. It is an acute, virulent, synovial infection followed by necrosis of the endothelial and subendothelial tissue, with subsequent organic union. It lasts for many weeks and even months. It is not associated with urethral infection, and it terminates with a fibrous ankylosis and agglutination of the capsule; the periarticular tissues (tendons, etc.) usually are not involved. This variety runs an entirely different clinical course from the dry fibrous arthritis; in this there is no evidence of septic intoxication, no effusion into the joint, practically no constant pain; there is sensitiveness to motion, which gradually becomes more and more limited until it entirely ceases, and there is formed a fibrous adhesion of the approximated surfaces. Both of these varieties differ from the traumatic fibrous arthritis, the form following fractures into the joint and resulting in complete agglutination of the surfaces and fixation of the bones. This fortunately is a rare result of fracture; it occurs most frequently in the shoulder, elbow and knee. The traumatic fibrous arthritis, without fracture, is not uncommon and gives a lamentable result from a comparatively slight injury. For instance, a patient falls and strikes on the elbow. The trauma is accompanied by pain, the surgeon is consulted and he carefully examines the part and determines that there is neither a fracture nor a luxation. For the first few days after the accident the part is comparatively painless; in a week or ten days the pain increases and continues to increase for from three to four weeks, when motion in the joint becomes intolerable and, even under force, the motion is very limited. The limitation of motion becomes more and more marked, and at the end of twelve weeks, to the horror of the patient and the chagrin of the surgeon, ankylosis is complete. Although the surgeon is in no way responsible for this condition, he is severely criticised. So far as we know, there is no means of avoiding this catastrophe; it seems to be an idiosyncrasy of the connective-tissue formation in the joints of some patients, resembling the keloid tendency in the skin of others. Fortunately, the joints which tend most to this type of arthritis are best adapted to arthroplastic procedures. Here, too, the periarticular tissues are not involved.

It is the suppurative type of arthritis which most frequently results in ankylosis; and of this the hematogenous variety is the most severe and destructive in its nature. In the cryptogenic variety we not infrequently see an acute, virulent, purulent inflammation of a joint, without knowing where the primary infective focus existed or where the primary blood invasion occurred. This type is more severe and destructive to the elements of the joint than is the type usually recognized as metastatic and which is the sequence of typhoid, scarlatina, pyemia or gonorrhea. The typhoid type of articular infection, as emphasized by Keen, may be divided into two great classes, namely, the mixed infection (pyemic and typhoid) variety and the pure typhoid variety. The former usually terminates fatally, and, if the patient survives, the treatment of the ankylosis following would come under the same treatment as for ordinary pus infection. The hip is usually the joint of election in typhoid, as well as in scarlatinal infections. This arthritis is so severe in degree that in over 50 per cent. of the cases it is accompanied by luxation. The tendency is not to suppuration in these cases, as pus rarely forms, but there is often osteitis, with softening. The scarlatinal infections of the joints are rarely accompanied by destruction of the synovial membrane or cartilage; they are of the purulent or seropurulent varieties, which develop rapidly, require simple drainage and are followed by a complete restoration of the joint. The more destructive varieties, however, are followed by destruction of the synovial membrane and cartilage, and this by ankylosis, without much involvement of the periarticular tissue. The pyemic variety usually terminates fa-

tally; when the patient survives, the conditions remaining are the usual sequelæ of panarthritis, with bony ankylosis. Following gonorrhea, there are three types of arthritis—the chronic, painful and dry—extending over months and even years, and followed by a plastic, adhesive synovitis; the acute and subacute serous synovitis, which runs rather a rapid course and terminates without ankylosis and the mixed infection variety, which terminates in suppuration, synovial necrosis, fibrous or bony ankylosis without involving the periarticular tissues.

Traumatic suppurative arthritis may be divided into the nonpenetrating and the penetrating. Suppuration of the joint following a trauma may occur without an abrasion or laceration. Usually, however, it is secondary to a traumatic osteomyelitis which subsequently affects the joint; it occurs much more frequently in the young and growing. The penetration of the joint from without inward may be considered as puncture and stab penetrations and bullet wounds. Since antiseptic surgery, with the immediate sealing of penetrating stab and puncture wounds, has become the practice, and the probe condemned, suppuration rarely follows these types of punctures. The same may be said of bullet wounds, but, in civil practice, bullet wounds are more frequently followed by infection than in the recent military cases. When evidence of infection is manifest, free drainage, without the use of antiseptics or manipulation, is all that is indicated and gives fairly good results. It must be timely and must relieve the pockets of the joint and its periphery. When perforations occur from within outward, as in compound fractures and luxations, when the joint is opened by the protrusion of bone through the soft parts, the danger of infection is very much less, or practically *nil*, if care be taken immediately to seal the wound. These cases do not require drainage. Hermetical sealing of this class of injuries has given the most brilliant results—the most positive proof of the value of asepsis. In Billroth's "Surgery and Surgical Pathology" (translation of 1876) amputation was advised for all compound fractures involving joints. At the present time, however, when infection takes place, these injuries are frequently followed by ankylosis and many times by deformity. The latter is avoidable if care be taken to keep the limb in proper position, either by extension or by mechanical support.

Osteitis of the tuberculous type is probably the most common cause of ankylosis. While pathologically there is primary tuberculous synovitis, practically all cases of tuberculosis in joints are secondary to a primary focus in the bone, usually occurring near the junction of the diaphysis and epiphysis. This tuberculous granuloma enlarges, softens the bony structures, frees the cartilage and finally ruptures into the joint, there producing a tuberculous arthritis. If a mixed infection exists, the capsule ruptures, the pus discharges and the destruction of the joint will be rapid. If it be simply tuberculous infection, the process of destruction of the cartilage and synovial membrane is slow, but nevertheless effectual, and finally results in a partial or complete bony ankylosis or in a fibrous organic union of the two ends of the bone.

The frequency of the osseous origin of tuberculous arthritis may be judged from my experience with the knee joint. In 128 cases of tuberculosis of the knee, in all but two it could be clearly demonstrated that the origin of the disease was in the bone. In one of the two it was doubtful, and in the other it appeared to be a clear case of synovial tuberculosis. In a large percentage of the cases in which I formerly did an excision I feel now that the bony destruction was of such a mild degree that an interposition arthroplasty might have been performed and the motion in the joint restored. From observation I consider that tuberculous synovitis of the hip is more frequent than tuberculous synovitis of the knee, but the difficulty of carefully examining the head of the femur and acetabulum may account for the apparent disparity. In planning to operate on these cases for the restoration of motion, the question of luxation or subluxation must be given grave consideration, as restoration of position is a very difficult undertaking.

Osteomyelitis of the epiphyseal or "end" type, of the British authors, not infrequently secondarily infects the joint and produces extensive destruction of cartilage, synovial membrane and bone ends, even to a panarthritis; to be followed later by an osseous ankylosis. It differs from tuberculosis in the fact that the tuberculous process does not affect the joint or bone end to an incapacitating degree until five to seven weeks after the trauma or exposure, while the osteomyelitic processes produce profound manifestations, local and constitutional, in the way of pain, swelling, arthritic effusion, etc., with chills, high temperature, delirium and severe septic intoxication within from 48 to 96 hours after the trauma or exposure. The clinical history of the onset of these two diseases is so clean cut that they can not be confused if carefully analyzed. The periarticular involvements following acute septic osteomyelitis may lessen the chances for free motion after operative procedure.

Periarthritis, due to phlegmonous inflammations in the neighborhood of joints, not infrequently inhibits or entirely obliterates motion by the fixation of the periarticular tissues (ligaments, tendons, etc.); if fibrous synovitis does not result, however, and if the joint is not penetrated by the infection, a fair degree of motion may be secured. If the joint has been penetrated by the infection, then all the tissues of the joint may be involved and a panarthritis may result.

In panarthritis, the bone, cartilage, synovial membrane, capsule and periarticular tissues are infected, no matter in which tissue the primary focus originated. This type of inflammation frequently results in luxation and adhesion of the tendons, and even ulceration and necrosis of the capsule, ligaments, bone and muscular tissue around the joint, so that a complete luxation of the bone results. (I recently saw a case of this type, with infection of the hip joint.) The destruction of the tissues here may be so complete that no effort at the restoration of motion should be attempted.

Primary ossifying arthritis is a rare type of joint disease, not associated with pronounced inflammatory symptoms, insidious in its onset, slow in its advancement, but resulting inevitably in osseous ankylosis. Fortunately, it usually occurs in patients beyond middle age, and attempts at restoration of the joint should not be made.

Static adhesive arthritis is a sequence of prolonged fixation. This fixation may be due to diseases of the bones which make up the joint or it may be due to periarticular inflammations or trauma. There is rarely ever an osseous ankylosis as a sequence of this trouble. The capsule, however, becomes firmly organized to the cartilage, and the endothelial layer of the synovial membrane is destroyed. In other words, there is a fibrous synovial fixation. In such cases, before undertaking

operative procedures, an accurate estimate must be made of the part played by the periarticular tissues, rather than the adhesive synovitis. In burns, extensive phlegmons and severe contusions the cicatrices around and in the neighborhood of the joints produce ankylosis, which may or may not be associated with adhesive fibrinous synovitis. If these cases are operated on soon after the process of repair of the soft parts is complete, the joint will not have to be opened, the periarticular cicatrices demanding our entire attention. The most pronounced example of this type is the mandibular fixation following ulcerative stomatitis or noma.

TREATMENT.

Treatment must be directed against any one of the following types of anatomic pathologic conditions:

A—Extra capsular disease	1. Tendon elongation—(tendoplasty). 2. Tendo vaginitis (exsection of sheath). 3. Cicatrices—removal.
B—Capsular	1. Adhesive synovitis—exsection of capsule. 2. Replacement by aponeurosis or muscle.
C—Osseous	1. Disconnect bones. 2. Remove neighboring bony processes or prominences. 3. Liberate soft parts. 4. Prevent subsequent bony contact. 5. Interpose tissue to form hygroma or fibrous surface.
D—Joints suitable for operation	1. Mandibular. 2. Hip. 3. Shoulder. 4. Elbow. 5. Knee.
E—Technic	1. Flap formation—skin flap with fascia or muscular. 2. Exposure of ankylosed area. 3. Osseous separation. 4. Transplantation and fixation of interposition flap. 5. Replacement of bone. 6. Fixation of parts. 7. Drainage.
F—Subsequent treatment	1. Passive motion. 2. Active motion. 3. Forcible extension.
G—Prognosis	1. Mandible. 2. Hip. 3. Shoulder. 6. Elbow. 5. Knee

The treatment of ankylosis in the past may be classified as the forcible separation of the adherent surfaces, and endeavor to maintain motion after the adhesions had once been freed (*brisement*). In a very small percentage of the cases, namely, those of synovial adhesion without organic union, the result was gratifying. In the enormous percentage of cases in which the lesions were due to necrosis of the synovial membrane or to fibrous or osseous union of the articular surfaces, ankylosis recurred after *redressement*, and the limb was in as bad, if not in worse, condition than before.

Schuh, in 1853, mobilized the patella with the chisel by cutting the synechia, but interposed nothing, and the ankylosis recurred. Cramer[8] says that operations in which the adhesions were separated by forcible distension (Ollier), by the mallet (Hueber), or by the chisel (Schuh) rarely have been successful, and that the Brachi method of establishing movement of the patella by manipulation is equally unsatisfactory.

Helferich, in 1899, proposed to free the patella with a chisel and to interpose part of the vastus internus between the patella and femur to prevent adhesion. He did not perform the operation.

Cramer[9] saw 10 cases of ankylosis of the patella, in 7 of which he operated by interposition of the vastus internus; 6 operations were successful. This does not imply ankylosis of the knee joint, but of the patella alone.

Verneuil[10] and Helferich preceded him in this idea, both in suggestion and performance, by the interposition of portions of the muscle and fascia in temporomaxillary ankylosis.

Chlumsky[11] states the following: "The treatment of complicated contractures and ankyloses of the joints as far as *restitutio ad integrum* is concerned gives very unsatisfactory results. I have collected 14 cases of ankylosis, other than tuberculosis of the knee joint, with contraction, which occurred in the last 10 years in the Breslau Surgical Clinic and were there treated, and in not a single case was there improvement in the mobility of the joint." He found also no better results recorded in the literature on the joints, and for that reason undertook experiments in the endeavor to clear up the question. He then attempted, through forcible extension and flexion repeatedly done under anesthesia, to secure mobility of the joint. After each trauma there were additional deposits of osseous and fibrous tissue, and the cases were uniformly worse after than before the operation. He reasoned that the interposition of muscle or fascia, such as takes place in pseudoarthroses after fracture, should give good results. Good results along this line were obtained by Mikulicz, Helferich, Lenz and Riegner, and, with this knowledge, Chlumsky concludes that in large joints this procedure is not possible, either through failure of preservation of the interposed parts or on account of technical difficulties.

Not satisfied to abandon the field, he decided to resort to the interposition of foreign bodies and conducted a large number of experiments. The materials used were plates of celluloid, silver, zinc and rubber, cambric, and layers of collodion, and, while he succeeded in retaining mobility with these interposed materials in some cases, a fair preservation of the articulation beyond four and one-half months was not obtained. The ankylosis ultimately occurred and the foreign body became extruded from the joint. He, therefore, concluded to substitute, for the unabsorbable material, absorbable material, such as decalcified bone, ivory and magnesium. In these cases, at the end of from three to twelve weeks, he found various degrees of absorption and in some a moderate attempt at the formation of a joint, but with very unsatisfactory results on the whole.

At this period, Oct. 5, 1901, I performed my first operation, Mr. D. (full particulars given under the heading of "report of cases").

Hubscher[12] used magnesium foil, 5 millimeters in thickness, in ankylosis of the patella. Speaking of the different methods and experiments, he mentions Bruns, who has successfully transplanted the flexor tendons after five years of immobilization by adhesions. He failed to secure freedom of the patella.

McIlhenny[13] operated for temporomaxillary ankylosis by osteoclasis and the formation of a new joint. The details of the operation were as follows:

An Esmarch incision was made on the right side, exposing the jaw bone from the sigmoid notch to a point a little anterior to the angle. The masseter was retracted and a wedge of bone, one-half inch in diameter, was removed from the neck of the condyle just above

8. Paper read before the 30th Congress of the Deutsche Gesellschaft für Chir., Berlin, April 13, 1901.
9. Arch. klin. Chir., 1901, vol. lxiv, p. 696.
10. Verneuil, A.: Archives de Medecine, 1860, p. 284.
11. Chlumsky: Centralb. f. Chir., Sept. 15, 1900. Wien. klin. Woch., 1902.
12. Hubscher: Corresp.-blatt f. Schweiz. Aerzte, Dec. 15, 1901, vol. xxxi, p. 785.
13. McIlhenny: New Orleans Med. Jour., April, 1901.

the insertion of the external pterygoid. The same procedure was followed on the opposite side, with the result that the mouth could be opened to almost normal. The tongue was found attached and was carefully freed. The ends of the bone were rounded off and the cavity was packed with iodoform gauze. Fibrous bands in the side of the mouth gave trouble and these were stretched, divided by tenotomy and the external wound finally closed. The patient was able to chew for the first time in 15 years. (From the description of this case I infer that the union was a fibrocartilaginous one and not the formation of a new joint.) Shortening the neck and removing the head of the mandible allowed the temporal and masseter muscles to act as a pivot on which the jaw revolved. The practical result was excellent.

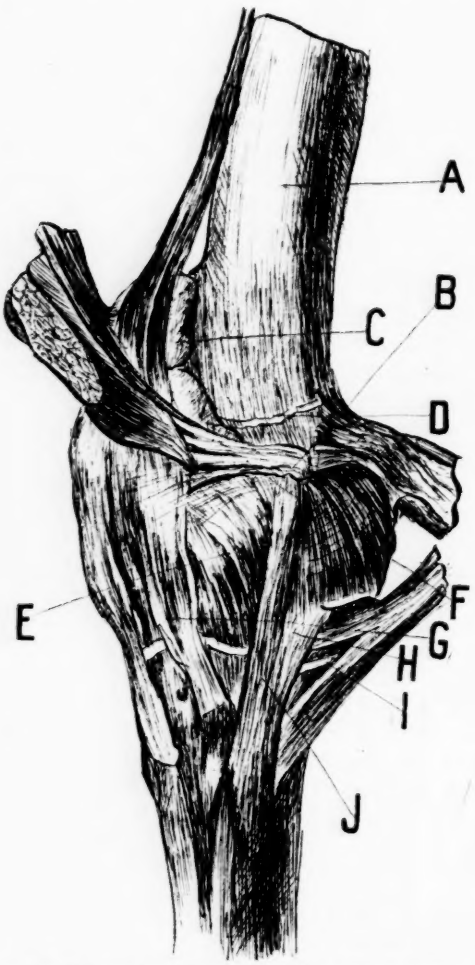

Fig. 7.—The ligamentous bands extending from supreme point of inner condyle (B) to inner tuberosity (I) should be retained.

Gluck, of Berlin, at the 31st Congress of the Deutsche Gesellschaft für Chirurgie (Berlin, April 2-5, 1902), presented a little girl whom he had treated for gangrenous stomatitis and septic phlegmon of the mouth. The alveolar process and the teeth were gone. The cicatricial tissue was removed after Gussenbauer's method and a flap of skin transplanted into the mouth. He referred to two other cases of bony ankylosis of the temporomaxillary articulation. The joints were mobilized and the wound was tamponed. Ten days later, with the hammer and chisel, portions of the bone were removed. A cutaneous wedge was implanted, with attachment to the bony surfaces, to interpose and prevent union. The wound healed; the mouth could be opened to the maximum. He believes the cutaneous flap is the best for this purpose. He promised a more complete report later, which did not appear.

A. Blencke[14] advocates conservative treatment of these joints with the apparatus of Lorenz and Helferich. Calot does not believe in force or violence in the restoration of motion in ankylosed joints.

Golebiewski recommends his apparatus for the treatment of ankylosis and says he has obtained very good results. (If by this he means good results where bony or fibrous ankylosis existed and the synovial membrane and cartilage had been destroyed, it does not correspond with our knowledge of the process of repair of these surfaces under such circumstances. I, therefore, believe that he must have referred to the purely adhesive cases of arthritis.)

In treating ankylosis the points to be considered are the type of ankylosis, the tissues involved, and the pathologic lesion producing the ankylosis.

In the extracapsular variety, elongation of the tendons should be performed; by that I do not mean forcible elongation, but plastic elongation, either by

Fig. 8.—Vertical section through the hip joint, showing extension of the synovial membrane onto anatomic neck of femur.

tendoplasty or myoplasty. The forcible elongation of a muscle or tendon that has been fixed for a long time is very unsatisfactory, both in its immediate and ultimate results. Tendoplasty properly performed is a safe and rational procedure and tends to immediate and permanent restoration of function.

Tenotomies and myotomies with forcible extension in all muscular contractions fail to give free motion in the joint. Plastic elongation of the muscles gives very desirable results. The extensor tendons should always be given the advantage, as they are always weaker than the flexors. A portion of the true capsule of the joint can be dissected from beneath the quadriceps tendon, and spread out over the surface of the femur in cases of ankylosis of the patella. This will least interfere with the functions of the joint. It is possible that this capsule may be utilized to cap the end of the femur in tibio-femoral ankylosis.

Where a tendo-vaginitis has existed, and there is agglutination or organic union of the tendon to its sheath, exsection of the sheath is the proper procedure. After

14. Blencke: Zeitz. f. orthoped. Chir., vol. viii, No. 1.

exsection the tendon should be surrounded or covered with a layer of connective tissue, with as much of the fatty tissue as can possibly be secured; or the aponeurosis of a muscle may be turned over, or turned upward or downward, so as to cover the tendon and protect it from union to fixed bony prominences, or to immovable and inelastic ligaments or adhesions to the skin. In connection with the knee and elbow, this procedure is of great importance in securing a rapid restoration of function. Cicatrices, either from phlegmons or burns, should be extensively dissected and their places supplemented by large cutaneous flaps, with much of the fatty tissue attached. Area flaps that are transplanted enlarge about one-third of the original size later if they are subjected to pressure or to traction. After transplantation they do not enlarge beyond one-third.

Ankylosis from adhesive synovitis, with fixation of the capsule to the head and neck of the bone, and with subsequent contraction and cicatrization of the capsule, promises excellent results, if the capsule be completely excised and with it the closely attached ligaments. The head and neck of the bone should then be surrounded by an aponeurosis or muscle, to prevent the reforming of adhesions. The mere division of the capsule, without its exsection, does not tend to produce a favorable result, as it reunites and so fixes the joint. It must be borne in mind, as a principle in all of these operations, that the

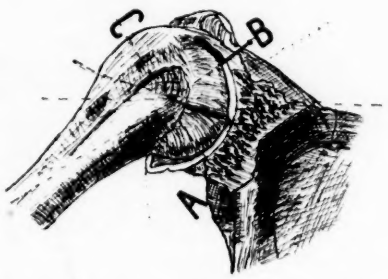

Fig. 9.—Vertical section through shoulder joint. The capsule surrounds the head of the humerus and extends onto the anatomic neck.

joint should permit of free motion and should be free from severe tension on tendons, capsule or ligaments. If there be great tension under anesthesia, there will be tension and pain beyond the ability of the patient to tolerate when the effect of the anesthesia has subsided. In all of these operations liberation of the articulation should be to the degree of easy, flail motion, rather than to restricted and limited mobility. In the knee, when the capsule and periarticular tissues have been involved in pathologic processes, the posterior hamstring tendons and quadriceps and patellar tendons with the crucial ligaments are the only attachments that should be allowed to remain at the time of the operation. All the other ligaments and the capsule should be carefully dissected and removed and the flaps so arranged that these ligaments will not be reproduced. If the capsular ligaments of the joint alone be divided and a muscle or aponeurosis interposed, the union through this muscular aponeurosis will become so strong and firm before the joint admits of painless passive motion that passive or active motions will be impossible. A point to be remembered in arthroplasty is that flaps receive nutrition rapidly from the rich vascular supply to the ends of the bone, and that, as flaps are made up principally of fatty and elastic fibrous tissue elements which have but a slight vascularity, they receive nutriment by osmosis, while a circulation is developing.

I believe that my early failures in production of motion in the knee joint were due to the fact that I did not remove a sufficient portion of the lateral ligaments and capsule of the joint. In other words, I did not free the tissues sufficiently to permit early, free, unrestricted motion. If the lateral ligaments of the knee joint be retained at all, they should be retained as small bands extending from the supreme point of the internal and external condyles to the internal and external tuberosities, and not more than half an inch of these bands should be left (Fig. 7). This is the pivotal point in retention in the joint, and the distance between these two points is not changed, no matter in what position the limb may be placed. It can be seen from Figure 8 (Toldt) that the synovial membrane extends well out

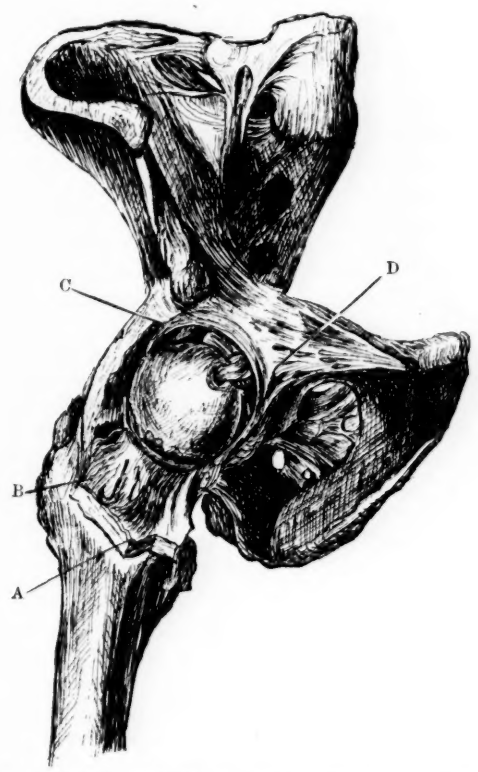

Fig. 10.—Interior of right hip joint. The synovial membrane and capsule from B to C and from A to D must be removed.

onto the anatomic neck of the femur and in the shoulder the true capsule extends out to the major tubercle and completely surrounds the head of the humerus, as well as the glenoid cavity (Fig. 9). This capsule must be freed by a complete excision if one hopes to get a movable joint from the interposition of aponeurosis or muscle. In the same manner must the synovial membrane from *B* to *C* and *A* to *D* in Figure 10 (Toldt) be removed, with the capsule, if one hopes to get a movable joint, without tension on the capsular ligament.

The same law governs the temporomaxillary and elbow joints, but it requires more accurate skill and care to remove the capsule in the two latter than it does in the three former articulations. In all these joints it will be noted from the drawings that there are pivotal points of retention, and the tissues left attached must be so balanced as not to bring tension when the circumference of these pivotal points is put in motion; further-

more, the limbs must be hyperextended and abducted, as the adductor and flexor muscles are usually the ones that are contracted, and the extensors and abductors, as a rule, are the weaker set of muscles. This weaker set, therefore, should be given the advantage in position of the limb immediately after operation. Tenotomy, myotomy, tendoplasty or myoplasty may be performed at the time of the operation. Great care must be taken, however, in operating on the quadriceps or on the triceps tendons that the line of union is not permitted to adhere to the bone, as this would permanently incapacitate the muscle and prevent contraction. This can be readily avoided by interposing a flap of fatty tissue, muscle or aponeurosis from the neighborhood.

In general the elements which have contributed most to the failures have been:

1. The insufficient or defective exsection of the synovial membrane, capsule and ligaments.
2. Insufficient interposition of fat and aponeurosis, or of fat and muscle, between the separated bony surfaces.
3. Infection.
4. Sensitiveness to pain on motion after operation.

Where osseous union has existed, it is important to disconnect the bones in as nearly their normal line of union as possible. This can be done with the narrow chisel better than with the saw. In the shoulder and hip the chisel can be used to separate the bones so as to outline the line of fracture as deeply as is necessary to secure nearly the normal conformation both of the head and cavity. All bony prominences that may impinge against other bones in extreme degrees of motion should be removed: for example, the coronoid process and the tip of the olecranon process. The soft parts should be liberated most thoroughly. It appears a repetition, but it can not be too forcibly impressed on the operator that this is essential to a good result, and muscular aponeurosis with fat makes the best interposed tissue. If the aponeurosis can not be found, then the muscle and some fatty tissue should be substituted, as the muscle, when subjected to pressure, gradually flattens out into an aponeurosis in many joints, but it does not well withstand the early pressure which is necessary to a good result.

The development of a hygroma from pressure of fatty tissue should be the uniform result, as was shown in experiment No. 2 and as occurred so perfectly in my first hip case. When the muscular contraction is great it may be overcome by Buck's extension. So much for the general consideration of the operative technic. Now to the individual joints.

The temporomaxillary ankylosis was the first to direct the surgeon's attention to the necessity of this type of surgical intervention. So far the results have been mostly of the fibrous union type, but by using the temporal fascia and fat, which can readily be interposed on the cadaver, it should be possible to produce movable and perfect joints on the living subject. In cases in which there is cicatricial contraction of the cheek muscles and fascia, following trauma, the head of the bone should be excised. If much cicatricial tissue exists on the mucous side, a flap of skin from the neck, with its pedicle below the ear, can be passed into the mouth and the skin kept toward the teeth. The skin acts as a good substitute for the mucosa and excellent motion can be secured, as in a case I operated on in this manner in 1898. The result is good at the present time.

(To be continued.)

THE TREATMENT OF BONE CAVITIES.

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Every surgeon knows how necessary it is to secure apposition of the soft tissues in order that perfect union may follow. He also knows that by the judicious use of buried absorbable sutures and pressure he can avoid the dangers of dead space. There are some wounds where soft and bony tissues are both involved; for example, an excision of the elbow, in which it is impossible to avoid dead space, because it is necessary to keep the cut bone ends separated to prevent bony union, and in which it is not practical to fill the gap with the soft tissues. Under perfect conditions, Schede's method of allowing the space to fill with blood clot will yield favorable results, but, unfortunately, perfect conditions seldom obtain. This blood clot is the very thing we are trying to avoid when we try to obliterate dead space, because it is such a good culture medium and is so liable to end in suppuration. Although the intelligent use of the blood clot is of very great value, it is open to so many objections that we are constantly trying to avoid it by obliterating dead space. That we should ever deliberately use it is a surgical paradox.

The surgeon experiences even greater difficulty in overcoming bony defects because nature seems to be less helpful in dealing with bony tissues. Schede's method has also been employed in filling cavities in bone, but it is open to the same objections here as in the soft parts—with one exception—and when it does succeed shrinks so that the end results are not eminently satisfactory. The exception is that in bony tissues the size of the blood clot can be better controlled.

Newber's method of turning the periosteum and integumentary flap into the bone cavity and fastening it there is only applicable to very superficial bones like the tibia, and leaves very unsightly scars.

The modern surgical belief is that a local tuberculosis should be treated by removing it just as if it were a malignant growth, because untreated it has a natural tendency to spread, and because the removal is so successful. Having removed a focus of this kind from bone, a very common method of treatment is to pack the wound with iodoform gauze and to keep repacking it until it is healed from the bottom. This is a tedious and at first a painful process, and not infrequently there is a recurrence of the disease in the sinus in spite of every precaution. A bone cavity made for the removal of a tuberculous focus where there is no mixed infection is an ideal one to fill with some artificial material which will permit the complete closure of the wound.

The modern operation of necrotomy for the removal of a sequestrum following osteomyelitis is a very safe and satisfactory one. The dangers from sepsis are removed by our present methods of wound treatment, and the danger from hemorrhage which was at one time a very grave one, is now completely overcome by the use of the Esmarch's bandage. Another very great advantage of this bandage is that when it is applied we can use the strongest disinfectants without fear of poisoning from absorption. It is very important that it be always used in operations on chronically inflamed bones, because without it the hemorrhage is always troublesome and ofttimes dangerous. Having removed the dangers from this operation, the only drawback is the very slow healing of the open wound. When we

can fill this cavity with some material that will admit of the immediate closure of the wound, thus doing away with the protracted convalescence, we shall have attained surgical perfection.

Chronic bone abscess without necrosis is also a very favorable condition for the use of an artificial bone plug, because the cavity is easily sterilized and the immediate closure of the wound saves the patient weeks, and sometimes months, of time and suffering.

Dentists have for a long time excited our admiration by the skill with which they fill cavities in teeth with artificial filling, but they admit that they have not yet found a perfect filling material. Surgeons have faithfully applied dentists' methods and materials to the filling of bone cavities, but have failed because the materials act as foreign bodies on the soft parts and cause trouble. Plaster, cement and copper amalgam have been tried and found unsatisfactory. The last notable effort made in this direction was by Senn, who advocated the use of decalcified bone chips. These chips were dusted with iodoform, packed into the cavity and the wound closed. The interspace between the chips necessarily became filled with blood clot. While meeting with a measure of success, the failures were so numerous as to prevent this material from coming into general use.

In January, 1903, von Mosetig reported a large number of successful results from the use of a new bone plug. In my original title I spoke of this material as Moorhof's bone plug, because my knowledge of it came from his extensive and successful use of it in his clinic at Vienna.

This material consists of sixty parts iodoform, forty parts spermaceti and forty parts of oleum sesami. These ingredients are slowly heated to 100 C., and when allowed to cool form a soft solid which remains solid at the temperature of the body. For use it is heated to 50 C., being constantly stirred to keep the iodoform evenly distributed. At this temperature it can be poured into the cavity, where it immediately solidifies. This material does not act as a foreign body, nor does it act as a culture medium. It possesses the inhibitory and medicinal properties of iodoform without causing iodoform intoxication. Its physical properties are such that it is gradually absorbed and replaced by granulations and finally by new bone. Moorhof shows many skiagraphs illustrating this process.

In using this material the most important part of the technic is the preparation of the cavity. It must be dry and sterile. When the cavity is largely surrounded by soft parts it is impossible to prevent some oozing into it, and it is advisable to provide for some temporary drainage, preferably by a few strands of catgut which will absorb and thus avoid the necessity for an early change of dressings. In tubercular cavities where there is no mixed infection, and in chronic bone abscess where the cavity is practically sterile, success is almost certain, but in tubercular cavities with mixed infection and in those made for necrotomy it requires the utmost care to secure asepsis. The soft parts and the periosteum should be retracted, and the bony covering sufficiently removed to admit of free access to the cavity. All diseased or necrotic tissue must be removed and the cavity dried and disinfected. The drying can usually be done by means of gauze. An adrenalin solution has been used where oozing is persistent. One to 500 bichlorid or a 12 per cent. solution of chlorid of zinc have been used for disinfecting the cavity, but I prefer the 95 per cent. carbolic acid followed by alcohol. With the Esmarch's bandage applied and the cavity thoroughly dried the cavity can be filled with the acid, which may be left for several minutes with impunity. Moorhof uses an electric hot-air blast in his clinic, which both dries and disinfects the cavity. A Paquelin can be used, but is not so convenient.

The cavity having been prepared, it is poured full of the melted material. The periosteum is closed with catgut and the integument with fine silk, after which a copious surgical dressing is applied and the part is put at rest. This treatment can not be used in acute osteomyelitis, because the cavity can not be sterilized.

My experience with this material, although limited, is sufficient to satisfy me that better results can be obtained in these cases through its use than by any older method.

As an illustration, I will briefly report 4 recent cases:

CASE 1.—W. B., of Minneapolis, a boy aged 6 years, with a badly united fracture of the inner condyle of the humerus. Both extension and flexion are greatly limited by bony impact. Aug. 16, 1904, at the Northwestern Hospital, Minneapolis, arthrotomy was performed. The condyle was found rotated on its transverse axis and united in such a manner as to make improvement impossible without an operation. It was impossible to separate the fragment and restore it to its normal position without endangering its circulation, so the projecting points were shaved off with a cartilage knife until the joint could be flexed and extended to the normal limits. After careful hemostasis the cavity was filled with paste, the wound closed without drainage and the arm put up in a plaster-of-paris bandage in full extension. In two weeks the dressings were removed and the wound found to be perfectly healed. A plaster splint was then applied with the arm flexed to a right angle. At the end of about five weeks all dressings were removed, passive motion employed and the boy encouraged to use the arm.

The arm at the present time is very much improved, although somewhat restricted in both flexion and extension. I am satisfied that the presence of the paste, by keeping the raw surfaces apart enabled me to secure a much better result than I otherwise would.

CASE 2.—Rose W., of Loretta, Minn., 19 years of age, with a well-marked tuberculosis of the elbow and failing health. Operation at the Northwestern Hospital Aug. 19, 1904. Through a straight posterior incision a complete excision of the joint was made, all of the synovial membranes and the ends of all three bones being removed, leaving quite a large cavity but no trace of disease. After most careful hemostasis the cavity was completely filled with the bone plug and the wound closed without drainage. Over a copious dressing a plaster bandage was applied with the arm in full extension. Very little pain or reaction followed and at the end of two weeks the dressings were changed and the stitches removed. The wound was healed with the exception of one small point where some blood serum was escaping. A copious surgical dressing and plaster splint were applied with the arm in extension as before. After three weeks the dressing was removed and the wound found perfectly healed. The arm was then flexed and a plaster splint applied. Two months after the operation all dressings were removed and the patient advised to begin careful use of the arm. On December 17, four months after the operation, the patient reported for examination. She has gained over twenty pounds in weight and has the most perfect result I have ever seen after a complete excision of the elbow. With the patient standing and the arms hanging there is no perceptible difference between them. She has complete extension and supination. She can pronate freely, can readily grasp her nose and can even do up her back hair with the operated arm. No trace of the bone plug can be felt. The bone plug, by filling the dead space and keeping the bones well apart, gives nature a chance to form a new joint, at the same time, by

its gradual absorption, it allows the bones to approximate so as to prevent a flail joint. The lateral motion in this joint is only perceptible when one takes hold of the arm and bends it sidewise. It is evident from my experience in this case that when the soft parts are extensively involved it would be better to provide for temporary drainage of blood serum.

CASE 3.—Mrs. M. R., of St. Paul, aged 49. Early in 1904, at a St. Paul hospital, this patient had the ninth rib removed from her left side for tuberculosis. The wound was packed with iodoform gauze and was about six months in healing. When she came to me early in September there was an extensive tubercular infection of the fascia in the epigastric region and of the ninth costal cartilage on the right side. Sept. 9, 1904, at the Northwestern Hospital, I lifted an extensive flap from the epigastric region and dissected out the diseased tissues. The wound was closed without drainage. An incision was then made over the tender swelling along the rib and cartilage. The whole cartilage of the ninth rib was found loose in a bed of tubercular granulations. The cartilage was removed, the granulations curetted away and the cavity filled with 95 per cent. carbolic acid. This was followed by alcohol and the cavity thoroughly dried. The cavity was then poured full of the melted bone plug and the wound closed without drainage. The stitches were removed on the eighth day. Union was perfect throughout, although there was considerable effusion of serum under the larger skin flap in the epigastrium. This all disappeared without leakage and in two weeks the patient went home free from pain and temperature. Two months after the operation there was no depression at the point where the cartilage had been removed, showing that the gradual absorption of the plug had enabled nature to fill in the space without deformity. This case demonstrates the advantage of filling a cavity with the bone plug over the open method with gauze packing.

CASE 4.—Sam S., of Iron River, Wis., aged 28. The patient was suffering from hypertrophic osteoarthritis of the left hip. November 20, at the Northwestern Hospital, I removed the roughened hypertrophied head of the femur through an anterior opening. Hemorrhage from the bone was very severe, which required temporary packing and hot water to check. It was impossible to check it entirely so as to allow me to fill the cavity with the bone plug at once, as I had hoped to do. The cavity was packed with iodoform gauze, which was left for two weeks. Notwithstanding the fact that I had repeatedly tested the temperature of the hot water used to check the hemorrhage with my hand, it was so hot that it caused necrosis of the subcutaneous fat and quite a slough around the wound. However, by careful cleansing and free use of 95 per cent. carbolic acid, I was enabled to pour in the bone plug when the packing was removed after two weeks. The patient has been practically free from temperature and pain since the introduction of the plug and is rapidly convalescing. He certainly has been more comfortable and is making a more rapid recovery than he would under any other treatment with which I am familiar. It is extremely doubtful if an infection of the joint could have been avoided in any other way in this case.

MODERN TREATMENT OF TUBERCULOSIS.

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It would be impossible fully to present this phase of the subject in the time allotted, so I will speak only of essentials, and be as brief as possible.

By modern treatment I mean the general lines of treatment now carried out in practically all closed sanatoria for tuberculosis, following after Brehmer, the leader. Closed sanatoria are those in which patients are compelled to follow a daily routine prescribed by the physician in charge.

This system of treatment rests on the hygienic tripod —pure air, special diet, and rest, rest including exercise. This seems so simple as to require very little study on the part of the physician. Indeed, the danger is that the public may come to believe that there is scarcely need for a physician, once the diagnosis is made. Only recently a lady asked me to give her, by telephone, directions for the fresh-air treatment of consumption, which she wished to send to an acquaintance in another city. Fresh air day and night, milk and eggs in abundance, and rest when the temperature is above 100 degrees—that seems to some to be all there is to it.

If there be a specific in medicine it is mercury and iodid of potash for syphilis; but what different results are obtained by different physicians in the use of these two drugs!

In no other disease is it more essential that we treat the patient and allow the disease to take care of itself than in pulmonary tuberculosis. Thousands of patients get well without a physician; many of them never suspect they had the disease.

Tuberculosis is a fight between the bacillus and the body, which makes use of its vital force to kill, to expel, or to capture and imprison the invader. The struggle is often a losing one because these bodily forces were originally lacking or weak, or because they were not supported and augmented by proper hygienic measures at the right time. That is, modern treatment was not instituted until the bacillus and its toxins had gained such an ascendancy as to make resistance impossible.

Individuals differ so much, and tuberculosis varies so greatly in its effect on the patient, that no two cases can be exactly alike; nor will precisely the same treatment be appropriate in both. Broad lines may be laid down, but there must be constant departures and variations in detail if the patient is to secure the greatest possible benefit from treatment.

Of first importance is pure air for every hour in the twenty-four. It is not possible to have the air in any enclosure as pure as the air out of doors, though we may approach it. An open window in one wall of a bedroom with all other openings closed will not afford pure air. With cross ventilation it is much better.

If a patient must occupy a bedroom there is a choice in location, and the physician should decide. A room facing south is preferable; extra windows may be cut. A fireplace and chimney help in ventilating the room, but soft coal gives off too much dust. The floor should be bare, painted, and with cracks filled. It is advisable to have the walls painted for from three to four feet from the floor, or covered with washable paper. No broom or dusting brush should ever enter this room; the floor should be wiped with a moist cloth every day. None but the patient should occupy it.

It is needless to say that the most scrupulous care should be taken of the sputum. Patients may reinfect themselves as well as others. The temperature of the room may be kept at 50 degrees, or even 55 degrees, if pure air is not shut out to do it. We should aim to have patients comfortable, but they easily support low temperatures if constantly exposed to cold pure air.

Where patients eat with the family, and spend a part of their time in living rooms heated to 75 degrees or more, they may complain of the cold. The family must make sacrifices for the sake of good ventilation if the patient is to spend much time with them.

The patient may secure pure air at night by pushing the head of his bed out of the window. I know of a case where this plan has been followed every night for more

than a year. Most of the patients in sanatoria in the Adirondacks sleep on verandas even in winter. These usually have sliding glass windows to shut off direct winds. A suitable portico may be found in a private dwelling and arranged so that the patient may use it both for a day room and for a sleeping place.

Tents may be used. Canvas is practically air-proof, hence sails are made of it. An ordinary tent with curtains down is a bad place for a consumptive. There are a few good ventilating tents on the market, but they are somewhat expensive.

To aid patients to support lower, and especially sudden changes in, temperature a daily sponge bath and brisk rub are useful. It may be necessary to commence gradually, with alcohol and tepid water; some patients do not react well, and these the cold bath may harm. The cold sponge stimulates many bodily functions, and is usually of great help. Direct sunlight is a potent stimulant, and sunbaths, exposing the naked body, may be used at times with advantage.

Suitable arrangements should be made for those who must rest lying down most of the day. They may have a comfortable reclining chair in a sheltered nook out of doors. Covers of the right sort must be provided, and possibly, especially in the beginning, artificial heat. Nose and ears must be guarded from frostbite.

Clothing should be warm but light and porous, and wool is the best. Pettenkofer has shown by the use of tiny anemometers that currents of air are constantly produced in our clothing. This is especially marked in clothing of loose texture. These air currents carry off body emanations. A flannel night-dress (a woolen bath robe is good) is needed at night in winter. Walking patients should go out in all kinds of weather except in a driving rain or wind storm. The feet should be kept warm and dry.

Many other points could be mentioned, and may need to be made use of, in providing for the pure air and outdoor life so essential in these cases.

Food and feeding come next. Dettweiler said: "The kitchen is my pharmacy!" The patients need an abundance of fatty and nitrogenous food. In taking the history of cases, so far I have found but one with a fondness for fat; nearly all the others expressed repugnance for it. Loss of weight is a common but by no means universal symptom of pulmonary tuberculosis.

The appetite is usually impaired or lost. Ability to digest food is nearly always in excess of the appetite. Adroitness and firmness may be required to get patients to eat enough, and artificial digestants may be of temporary use. Milk and eggs are exceedingly useful to supplement other food in many cases, but some patients can not take them. There are few, however, who can not digest and assimilate these articles.

Some excellent authorities, mostly the Germans, favor five meals a day, but many of the German people habitually eat five times a day. In most cases, I would advise three regular meals a day, with meat twice, and milk and eggs or other supplemental food in the forenoon, afternoon and at bedtime. Dr. Flick thinks he has better results in giving patients but one meal a day, supplementing this with rather large quantities of milk and eggs.

Here again the individual must be studied. Where weight has been lost we must try in every way to restore it. If the weight has always been below normal for the height, we should endeavor to get above the weight before illness. A few patients gain enormously, and are show patients in some sanatoria. It is not wise to go too far, however; flabby fat in excess of natural weight is rather harmful than good.

This part of the treatment, for patients at home, will usually cause the physician much trouble. There is always hope for a consumptive who has appetite and a good digestion, and any treatment, drugs or other things that tend to destroy either are certainly harmful.

There are great variations in regulating rest and exercise. It has been laid down as a rule by some authorities that a daily temperature of over 100 degrees demands absolute rest, and this fits many cases, but not all. Gentle exercise, in some patients, especially those of the nervous type, seems even to help lower temperature; some patients do well with morning exercise and afternoon and evening rest.

Other features of the case help decide the matter, especially the heart. The heart muscle is often affected and may be easily overstrained. I know of a case where the patient was given much physical exercise, including long bicycle rides, greatly to his detriment.

Nature, as far as possible, puts a diseased lung to rest. There is less movement of the ribs and of the diaphragm on the affected side, and this is a point in diagnosis. It may be necessary to help nature in this, and a reclining position will give the lungs the most rest. I can not agree with those who would give lung exercises in the acute or in the advancing stage of tuberculosis.

Rest and fresh air improve the quality of the blood, and increase the hemoglobin, which is deficient in this disease. There should be rest before and after eating, as it greatly aids digestion. Rapidly wasting patients should be given complete rest, but it must be remembered that muscular movement greatly aids blood circulation, and in turn, digestion and assimilation. Rest cases may often have massage in bed, as recommended by Dr. Weir Mitchell in nervous cases, to improve the circulation.

Brehmer was an advocate of hill climbing, beginning with gentle grades and always starting up hill. Febrile cases should usually be put to bed and kept there for ten days or two weeks. When there is only slight afternoon temperature, these patients may be started off with a slow five minutes' walk in the morning. Afebrile cases may usually take gentle exercise *ad libitum* short of much fatigue.

Exercise, however, must be prescribed like morphin—by its effect—and it is perhaps the thing most needful of medical direction.

The mental side of the case requires much attention. No patient will long carry out the treatment here recommended without implicit confidence in his physician. This enables the physician to inspire hope and to give encouragement. We do not understand, but must acknowledge the potent influence of the mind over the body, therefore we should use the patient's mind as well as our own in treating tuberculosis; and the great impressibility of many of these patients must be taken into account. Dettweiler found that emotional music, an exciting book, a close game of cards, would often elevate the temperature and do harm. We must provide and regulate the amusements of most of these cases, and usually, for a time, they must be cut off from church, the theater or other crowded assemblies. There is, indeed, nothing a tuberculous patient may do that is too trivial for the physician's notice; a seemingly little thing may turn a doubtful case.

The successful treatment of pulmonary tuberculosis depends very largely on an early diagnosis, and the pa-

tient must be plainly told of his condition in order to get him to carry out hygienic treatment. It is still too frequently the case that the lungs are found much involved before the physician pronounces that ominous word—tuberculosis. Suspected cases should be repeatedly examined—such patients are wronged by telling them there is nothing the matter.

A patient run down from any cause will be benefited by the hygienic treatment recommended for tuberculosis, and we can well afford to give the patient the benefit of the doubt.

Nothing has been said of drugs. They are seldom made use of in well-conducted sanatoria. They should be resorted to only when positively indicated to relieve symptoms that are harming the patient. They should still be withheld if this can be accomplished in another way. There is no specific for tuberculosis unless Maragliano has discovered one, and for the proof of this we must wait, and may wait long.

What has been said applies mainly to home treatment. It is usually, but not always, better to send a patient to a sanatorium, but we should carefully study him before deciding on this, and his character and disposition as well as the progress of his disease must be taken into consideration. In selecting a sanatorium, the physician in charge is of more importance than climate or location.

Even a month's training in a well-managed sanatorium is generally of great value to the patient, and home treatment may then be carried out without difficulty. I strongly protest against sending patients away for a change in climate without medical control. Improper food, stuffy bedrooms and ill advised exercise are as harmful in Colorado as in Ohio. We should know in advance what the patient's surroundings will be, and should place him under the care of a competent physician. Some patients will do better at home than under the most favorable conditions elsewhere, and here again, the patient's disposition must be studied.

In conclusion I would emphasize three points:

First, the supreme importance of early diagnosis.

Second, the strict enforcement of a daily régime, reduced to writing, and carefully planned for each individual case.

Third, the necessity of a comprehensive understanding of the character of the patient, a knowledge of the nature and extent of his lung lesion, and a full appreciation of the importance of even the minute details of his environment.

THE IMPORTANCE OF AN EARLY DIAGNOSIS IN CANCER OF THE UTERUS.*

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There are two forms of cancer of the uterus which we must consider. The more frequent form arises in the cervix of the uterus and grows more rapidly than the other form and sooner invades, by extension or metastases, the neighboring parts. On this account the diagnosis usually has not been made until after the growth has extended beyond the uterus, and, therefore, the operative treatment of this condition has been most unsatisfactory. On the other hand, the form of growth which arises in the fundus of the uterus is much rarer, grows more slowly, and remains restricted to the uterus for a much longer time. For these reasons the diagnosis is made earlier in the course of the disease and the operative treatment of cancer of the fundus is attended with a lower primary mortality and a much higher percentage of cures. In this communication I wish to refer especially to carcinoma of the uterine cervix, and, unless otherwise stated, that will be the form understood throughout the paper.

Cancer of the uterus needs the attention of the medical profession of this country for the following reasons:

1. Dr. Welch[1] has shown from his analysis of over 31,000 cases of cancer, collected from various sources, that the uterus is the organ most frequently affected by primary cancer, forming somewhat less than one-third of all forms of cancer. There have been 11,382 patients admitted to the gynecologic department of the Johns Hopkins Hospital during the fifteen years of the existence of the department ending Aug. 17, 1904. Of this number 412, or 3.6 per cent., suffered from carcinoma cervicis uteri.

2. Unfortunately cancer of the cervix is a disease of midlife. Over 94 per cent. of these 412 cases were over 30 years old, and less than 7 per cent. over 60. The number of cases for any decade between the ages of 30 and 50 years was quite evenly distributed. The number of cases occurring between the ages of 30 and 40 was nearly as great as that of those occurring between the ages of 40 and 50, each forming about 36 per cent. of the cases; and the number of cases between the ages of 35 and 45 was a little greater than any other decade, forming about one-third of all the cases. The oldest patient was 70; on the other hand, six patients were less than 25 years old, three of these being 22. When, in addition to the above, one considers that nearly all of these cases have borne children, for only about 3 per cent. of the 412 cases had never been pregnant, and that the disease apparently runs a more rapid course in young women, and that pregnancy seems to increase the rapidity of the growth, we must realize that those are afflicted by cancer of the cervix who are most important for the welfare of the home, and at a time when they can least be spared.

3. The clinical course of cancer of the cervix is usually most distressing, with the foul discharge, recto-vaginal and vesico-vaginal fistulæ, and pain which can only be controlled by morphin; all of which are so apt to be associated with the advanced stages of this disease. As so many of the cases recur after operation, we realize that the above fate has been only temporarily postponed in a large percentage of the cases operated on.

We all recognize the importance of an early diagnosis in the cure of any diseased condition and that this can be best accomplished by the proper education of the medical profession and through it the people, for whose welfare it is directly responsible.

The above is especially true in regard to carcinoma cervicis uteri, because:

1. It can be cured in a large percentage of the cases if operated on in its incipiency.

2. A diagnosis should be made in the majority of the cases before the disease extends beyond operative relief, for in about 76 per cent. of the 162 operable cases and in about 81 per cent. of the 250 inoperable cases there had been a history of bleeding for over three months before the patient came to the hospital, and bleeding had been

*Read in the Section on Gynecology in the Medical Department of the International Congress of Arts and Science at St. Louis, 1904. (At that time the author was Resident Gynecologist, Johns Hopkins Hospital.)

1. Welch: Pepper System of Medicine, vol. II, p. 533. Lea Brothers & Co., Philadelphia, 1885.

present for over six months before their admission in about 51 per cent. of the operable cases and in about 60 per cent. of the inoperable cases.

3. Of the 412 patients admitted to the Johns Hopkins Hospital with cancer of the cervix, 250, or 61 per cent., of the cases came too late for anything but palliative treatment, and in addition many inoperable cases were refused admission, thus making the percentage of inoperable cases applying for admission considerably greater than 61 per cent. Even of the 162 patients who were operated on we can not hope that 25 per cent. will be living and apparently free from cancer five years after operation. The failure to obtain these cases earlier is due to—

1. Ignorance on the part of the patients, who consider a bloody vaginal discharge of no consequence, or, through the dread of an examination, delay in consulting a physician until after the growth has extended beyond operative treatment; and, in addition, many believe that if it should be cancer they can not be cured and prefer to remain ignorant of their true condition.

2. The failure of physicians to examine patients who come to them complaining of a bloody vaginal discharge or with other symptoms referable to a diseased uterus, and the inability of many physicians to recognize cancer of the cervix even when it should be recognized, for physicians who have brought patients to that hospital have said that it began as an ulcer of the cervix, which they treated locally with astringents, then curetted, and finally it became cancerous.

3. Malpractice on the part of the physician who knowingly treats such conditions locally for the daily or weekly fee.

4. Growths which do not give rise to any symptoms until after they have extended beyond operative relief. Fortunately these probably form only a small percentage of all the cases; for only about 19 per cent. of the 250 inoperable cases did not have a history of bleeding for over three months, and in nearly all of the cases in which bleeding was either absent or of short duration there were other symptoms present which should have called attention to the local trouble long before it was diagnosed.

The remedy of the above lies in the better education of the physician, so that even if he is unable to make a diagnosis he will undertake means to find out the cause of the trouble. Through the physicians the women of this country should be made to realize that any unnatural vaginal discharge or other manifestations of local trouble may be indicative of some slight disorder which can be easily remedied; or, on the other hand, may be the first symptom of a cancerous growth which, if recognized in time, may be cured.

THE CURABILITY OF CARCINOMA CERVICIS UTERI.

Many physicians believe that cancer of the uterus is incurable, and through them the laity have a similar belief. Patients have been admitted to that hospital who have been told by their physicians that if they have cancer they can not be cured, and physicians have asked if a case of cancer of the cervix had ever been cured. There are at present sixteen women living and apparently well five years and longer after a hysterectomy has been done in that hospital for carcinoma of the cervix. In four of these cases more than ten years have elapsed since the operation. In all but one of the sixteen cases above referred to the clinical diagnosis was confirmed by the use of the microscope. It must be admitted that the growth may return after five years, but the percentage of cases in which it does is very small. One of the patients died at the end of six years from general carcinosis without a local return, and a third patient was apparently well for over five years when a bloody vaginal discharge appeared and a recurrence was found in the vaginal vault. On the other hand, out of 60 patients who have died from a return of cancer of the cervix after operation, and the date of whose death was known, only 4 lived over four years after the operation. Three of these four cases have been mentioned. Of these 60 patients, 26, or 43 per cent., died within the first year, and 44, or 73 per cent., within two years, and 52, or 86 per cent., within three years, and 56, or 93 per cent., within four years of the operation.

WHAT PERCENTAGE OF THE OPERABLE CASES CAN WE HOPE TO CURE?

The comparison of statistics is very unsatisfactory, for many surgeons will operate on favorable cases only and will include in their statistics those cases alone in which they think that the entire growth has been removed; while others (as has occurred in the Johns Hopkins Hospital) have recognized before the operation that the growth was probably ineradicable and at the close of the operation have given an unfavorable prognosis, thinking that the entire growth had not been removed. Generally the unfavorable prognosis has been speedily confirmed; on the other hand, we have had the satisfaction of seeing a few cases in which the patients are apparently well five years and more after the operation, but which were considered unfavorable even at the close of the operation. On account of the above, we had counted as operable all cases in which hysterectomy had been done, irrespective of the nature of the prognosis given at the time of the operation. Previous statistics[2] published by me were made on this basis. In reviewing the cases for the present communication three cases were removed from among the previous operable ones and placed among the inoperable ones. While a hysterectomy had been done in these three cases, the operation was clearly only a palliative one, for no attempt was made to remove all the diseased tissues. On account of this, there is a slight difference between the percentage of cures in this and in the previous publications.

There have been 84 cases in which five years or longer had elapsed since operation, 8 patients died as the result of the operation, and we have been unable to hear from 10. Of the 66 patients of whom we have been able to keep track, the growth reappeared in 50, or 75 per cent. of the cases; and at present 16 patients are living and apparently well, namely, 24 per cent. of the 66 patients heard from. We know that 16 of the 84 patients operated on, or 19 per cent., are at present apparently free from recurrence. Of the 162 patients operated on in this hospital we can not hope that 25 per cent. of them will be living and apparently well five years and more after the operation, for to the percentage of recurrences must be added that of the primary mortality. Two things are obvious: First, that cancer of the cervix of the uterus apparently can be cured, and, secondly, that had these operable cases been diagnosed earlier (and we realize that in over 50 per cent. of

2. Sampson: The Importance of a More Radical Operation in Carcinoma Cervicis Uteri as Suggested by Pathologic Findings in the Parametrium. Johns Hopkins Hospital Bulletin, 1902, vol. xiii, 299-307.

these cases there was a history of bleeding for over six months) the percentage of cures would have been greater and the primary mortality less, for the greater the extent of the growth the less the resistance of the individual and the more severe the operation necessary for its removal, and, in addition, the more likely the return of the diseased condition.

PROGNOSIS IN CARCINOMA CERVICIS UTERI.

A positive diagnosis of this condition can only be made by the microscope, and I should liked to have considered only such cases in this paper, but, as the microscope had been used as a means of diagnosis in only a little over one-half of the inoperable cases, we would have to exclude all those cases which had not been so diagnosed and yet which we realized were cancer. The elimination of a large number of the inoperable cases and of only a small number of the operable ones would give rise to a false conception both of the prevalence and of the operability of cancer, and the changes in its operability from year to year. While we tried to exclude all sources of error in compiling these statistics, we nevertheless realize that they do exist, and for these reasons the percentages in this article must be considered only as approximately correct. Of the 162 operable cases the clinical diagnosis has been confirmed by the use of the microscope in all but 10, and the history of these cases before and *after* operation, together with the description of the pelvic examination and operation, were such as to leave little doubt as to the correctness of the clinical diagnosis, especially as only one of the 10 cases appears in the list of apparent cures. On the other hand, in many of the inoperable cases, the patients were not curetted, and so tissue was not obtained for microscopic examination; but, as the diagnosis of these advanced cases is even more easily made than in the operable ones, there can be little doubt of the correctness of the diagnosis in the 250 inoperable cases, especially as we have not been able to hear of any of them who have lived over three years after the diagnosis was made in this hospital. The only source of error is that in a very few cases the disease may have started in the fundus and the cervix become involved secondarily, and the diagnosis should be carcinoma of the fundus with secondary involvement of the cervix; and a few may have been sarcomata.

It is impossible to keep track of all the patients, because many are admitted to the hospital through the dispensary. These patients are, for the most part, poor, many can not speak English, and others are colored. They belong to the so-called "floating population," who live wherever they can obtain work. In every instance, the hospital has not only the name and address of the patient, but also that of a relative or friend and, in addition, that of her family physician, if she has any. In spite of these three sources for obtaining information concerning the patients after they leave there, we are usually able to hear only from the better class of patients who come from Baltimore, while we are unable to keep track of the greater part of the poor of that city. Fortunately we are able to hear from a large proportion of all those coming from small towns and cities other than Baltimore, because they are sent to the hospital by physicians.

Of the 162 operable cases 135 patients have recovered from the operation, and of this number we have been able to keep track of all but 10 after they left the hospital; while of the 250 inoperable cases we have been able to obtain information from only about 100 patients, because we have not been following them so closely as we have the operable cases, and, then, more of the inoperable cases occur among the poor than among the better class of patients.

In making a prognosis in cancer of the cervix one must consider—

1. The clinical course of the disease not operated on.
2. Whether or not one can determine the extent and further course of the disease from the history of the case, pelvic examinations, findings at operation and a study of the specimens removed.
3. The clinical course of recurrences.

I. THE CLINICAL COURSE OF THE DISEASE NOT OPERATED ON.

Cancer of the cervix usually gives rise to one symptom which can usually be easily recognized by the individual, and that is bleeding. The bleeding may be very slight, "only a show," appearing at intervals, as on exertion or after coitus or after using a douche; or it may be slight, but constant, the patient noticing that her clothes are slightly soiled on taking them off at night. In other cases the bleeding is more profuse, so that it may appear like a prolonged profuse menstrual flow or as an irregular menstruation or a return of the flow after the menopause. In still other cases there may be severe hemorrhages, so severe that the patient may faint. These hemorrhages may occur without any apparent cause or following some unusual exertion. By this usual manifestation of the growth, in many instances, we have a probable means of estimating the duration of the disease. In some cases bleeding may be absent or present only in the later stages of the disease, but such cases are apparently less frequent; and, even in these cases, other symptoms are usually present which should make the patient realize that something is wrong and so lead to an examination and diagnosis, as has been mentioned.

We realize that certain factors must influence the rate of growth. Certain types of cancer may grow more rapidly than others and sooner invade the neighboring parts by direct extension or by metastases. Also, some individuals may be less resistant to the extension of the growth than others, and apparently the growth is slower in women past the menopause, while in younger women it seems to run a more rapid course, and pregnancy seems to hasten the rate of growth. In considering bleeding as giving us an idea as to the duration of the disease, before the patient entered the hospital in some of the cases, we find that in the operable cases, as compared with the inoperable, bleeding was absent in about 9 and 6 per cent. of the cases, while it was present for over three months in about 76 and 80 per cent.; over six months in about 50 and 60 per cent.; over one year in about 20 and 29 per cent.; and over two years in about 7 and 9 per cent. of the cases. We have been able to learn the date of death in 90 of the inoperable cases, and 75 per cent. of these patients lived less than one year after leaving the hospital and over 50 per cent. lived less than six months, and only two of the 90 patients lived over two years after leaving the hospital. The duration of the disease as indicated by bleeding in these 90 cases was less than three years in 92 per cent. of the cases and over six months in 75 per cent. and from one to two years in 45 per cent. of the cases. There have been two among the 250 inoper-

able cases in which there has been a history of bleeding for five years before the patient's admission, and there were two patients among the operable cases with a history of bleeding for three years before admission. If we take bleeding as usually giving the first indication of the disease in some of the cases we must conclude that the disease seldom exists with this clinical symptom for over three years, and that three-quarters of the patients die within two years, and about one-third within one year after the appearance of the first sign of bleeding.

Patient.—Mrs. E. L., aged 34 (Gyn. No. 7493), was admitted to this hospital in January, 1900. Bilateral ovarian cysts were removed, together with the uterus and appendix, a supravaginal hysterectomy having been done, leaving in the cervical stump.

Present Illness.—The patient was readmitted (Gyn. No. 11404) in July, 1904, complaining of bleeding of eight months' duration.

Examination.—On examination an extensive cancerous involvement of the cervical stump was found, which extended along the anterior vaginal wall almost to the external urethral orifice. The cervix was apparently normal at the previous admission, and this entire change must have taken place since she left the hospital a little over four years ago, and, judging from the symptoms, was only of eight months' duration. This is the only instance we have been able to find of cancer of the cervix developing after the patient left this hospital.

II. CAN A PROGNOSIS BE MADE AT THE TIME OF THE OPERATION?

Under this head one must consider the history of the case, what may be learned from an examination and also what is found at operation and the results of a study of the specimen removed.

Prognosis Made from the History of the Case.—Of 26 cases living and apparently free from cancer three years and more after operation 20 per cent. had bleeding as a symptom for over one year and 45 per cent. had the same symptom for less than six months. In 74 cases in which a recurrence occurred after operation 16 per cent. of the patients had bleeding as a symptom for over one year and 47 per cent. had the same symptom for less than six months. One must conclude that a history of bleeding over a long period does not necessarily imply that the disease is far advanced, or if the period is of short duration that the disease is also "very early." On the other hand, a history of no bleeding or one of short duration may reveal an extensive growth, as shown in the study of the 250 inoperable cases, where in 19 per cent. of the cases the bleeding was either absent or of less than three months' duration. Again, when the bleeding has existed over a long period of time, as over a year in 20 per cent. of the 26 cases free from recurrence three years and more after operation, it may indicate that in the case in question the disease grew very slowly, due either to the type of growth or to resistance of the individual; and on this account the prognosis may be favorable. One patient (Gyn. No. 5853, squamous cell carcinoma) had a history of bleeding, apparently due solely to the cancer, for over three years before coming to the hospital. She is at present living and apparently well, seven years after the operation, although an unfavorable prognosis was given at that time.

Prognosis Made from the Examination of the Patient.—Usually if the uterus is fixed in the pelvis one thinks that the disease has extended beyond operative relief, and if freely movable that the prognosis is favorable. One must remember that the disease may be associated with an inflammatory condition of the pelvic organs and that the movements of the uterus may be limited by adhesions of inflammatory origin and not by an extension of the growth. Wertheim[3] has shown that even in those cases in which the parametrium is apparently thickened that this thickening may not be due to cancer. He has emphasized the fact that the presence of cancer in the parametrium can only be diagnosed by the use of the microscope, for an apparently infiltrated condition of the parametrium is not necessarily carcinomatous and a "natural-feeling" parametrium does not exclude cancer. There is also no relation between the size of the primary growth and the presence or absence of cancer in the parametrium or pelvic lymph nodes, for the growth may be very large and still limited to the cervix. On the other hand, a small primary growth may give rise to metastases to the parametrium and pelvic lymph nodes. It is evident that a prognosis can not always be made before operation, or even afterward, for the surgeon may think that he has removed the entire growth and yet it returns; and in another case he may feel confident that he has not been able to remove it all, and the patient recovers and is living and apparently free from recurrence long after the operation. We have had such cases, and in one instance (squamous cell carcinoma) eleven years have elapsed since the operation, and the patient is apparently well and free from a recurrence, although it was thought that the entire growth had not been removed by the operation.

Prognosis Made from a Study of the Specimen Removed.—In looking over our pathologic records I find that a prognosis was made from a study of the specimen removed in twelve of the sixteen patients who are apparently free from a return of the disease, five years and longer after operation. In three of the twelve cases the prognosis was favorable, as "very early" or "entirely removed;" in three other cases the prognosis was questionable, while in six cases the prognosis was unfavorable, as "apparently not all removed," "disease far advanced," or "the growth extends out to the cut surface of the specimen removed;" and all these cases are apparently cured. In studying the pathologic records of 29 specimens from patients where the growth recurred and a prognosis was made by the pathologist at the time the specimen was studied I find that it was favorable in 8 of the cases and unfavorable in 21. It is evident that, with our present knowledge of the subject, a prognosis can not be made from the specimen removed.

It is along these lines that work is especially needed; i. e., a classification of the various forms of growth, a careful study of the specimens removed, determining whether or not and how the growth invades the neighboring parts. Reconstructions of the relation of the growth to the uterus and surrounding parts should also be done. This work may show us that different types of cancer grow in different ways, some slow, others rapid, some causing metastases early and others causing them rarely or never. The mode of growth in any case may give us knowledge concerning the malignancy of that growth in that particular case. As we may determine the variety and virulence of an infectious or-

3. Wertheim: Zur Frage der radical Operation beim Uteruskrebs. Arch. f. Gyn., 1900, vol. lxi, No. 3, p. 662. Also Kundrat: Uber die Ausbreitung des Carcinoms in parametranen Gewebe bei krebs des Collum uteri. Arch. f. Gyn., 1903, vol. lxix, p. 555-409.

ganism by the way it grows and by the changes it produces in various culture media in the mucus membrane of the uterus and vagina, so we may study the growth of cancer by the changes it produces and by the manner in which it invades the uterine wall and the surrounding parts, and whether or not and if so how it wanders to distant parts. All of these structures may be looked on as culture media for the growth and cultivation of cancer. The form of growth and the changes produced in the various tissues and structures included in these parts should enable us to classify the different types and to determine the malignancy of each type. The further clinical histories of these cases will control and modify the results of our pathologic studies. These studies may not lead to the discovery of the cause of cancer, but by them we may become thoroughly familiar with the pathologic changes produced by it and their clinical manifestations, so that we may recognize the conditions present sooner and more wisely and efficiently combat this disease. The duty of the physician is to do the best for the patient with what knowledge he has, and it is along these lines that knowledge is needed most in the treatment of cancer of the uterus. Even if the cause of cancer should be discovered, we have no assurance that by this discovery we will be any the better able to deal with it.

III. CLINICAL COURSE OF RECURRENCE.

Many important questions may be asked in regard to the apparent reappearance of cancer following operation.

Is there ever a true reappearance of the growth, i. e., does cancer ever recur in a place where a similar growth has previously been entirely removed? Such a thing is not impossible, but the so-called recurrence is usually a remanifestation of a growth which has not been entirely removed.

In what percentage of the cases operated on will the disease reappear? We realize that probably at least three-quarters of the 135 patients who have been operated on in this hospital and who have survived the operation, will die from cancer.

Where does the recurrence take place? It is difficult to determine whether the disease starts from a portion of the primary growth not removed or from a metastasis. Many of our patients come from a distance and others are among the very poor, so that the number of patients whom we could examine at intervals is very small; and even if we could the exact origin of the recurrence could not always be determined. The appearance of a local recurrence in the vaginal vault does not exclude a simultaneous extension of the growth from diseased lymph nodes.

Even if the recurrence takes place, has the patient been sufficiently relieved to warrant the operation? I think this can be answered in the affirmative. While out of 60 patients who died from a recurrence of cancer of the cervix, and the date of whose death we know, only 34 patients, or 57 per cent., lived over one year after the operation and only 8 patients, or 13 per cent., lived over three years; nevertheless, several patients have been relieved for over a year, feeling "as well as they ever felt" during that time, and four patients were apparently relieved for over three years.

Another important question is, Can we ever hope to cure a recurrence of cancer of the cervix?

Patient.—Mrs. Z. M. S., aged 33 (Gyn. Nos. 1723, 2115 and 2230), was admitted to this hospital with a diagnosis of cancer of the cervix, "the cervix being represented by a protruding fungoid mass." A vaginal hysterectomy was done Dec. 17, 1892.

Recurrence.—The patient was readmitted in June, 1893, and an apparent recurrence in the vaginal vault was cauterized with a Paquelin cautery. The patient left the hospital and was readmitted three months later, when the recurrence was excised. A letter was received from her in July, 1904, nearly eleven years after the operation, in which she stated that she felt perfectly well and that there was no evidence of a return of the growth.

Examination of the Growth.—Microscopic studies of the mass excised as a recurrence show that it is an epithelial growth with a great proliferation of the surface epithelial cells, and while there is but little invasion of the underlying tissue, the growth must be considered an epithelial cancer. One would judge that it grew very slowly. Unfortunately I have not been able to find the original tumor, which is described as a fungoid mass occupying the cervix, and we are unable to positively consider this as a cure of a recurrence.

It is very doubtful if the operative treatment of recurrences is justifiable except in very occasional cases.

WHAT CAN BE DONE TO INCREASE THE PERCENTAGE OF CURES IN CARCINOMA CERVICIS UTERI?

Two ways present themselves—first, an earlier diagnosis, and, secondly, a more radical operation.

How May an Earlier Diagnosis Be Made?—If there was a history of bleeding for over six months in about 50 per cent. of 162 operable cases and in about 60 per cent. of 250 inoperable cases admitted to this hospital, it seems that with the proper education of the medical profession and the laity this should not have occurred. If the women of this country understand that uterine bleeding and also other symptoms referable to the uterus may be indicative of some slight disturbance which can be easily remedied, or, on the other hand, that it is usually the first symptom of cancer of the uterus, which, if taken in time, can be cured, they will not only consult their physicians early, but will also more readily consent to an examination and to operation if necessary. As long as women through ignorance disregard these symptoms and consider cancer incurable the present condition will exist. Frequently physicians do not realize the importance of making a diagnosis in such cases, for they often do not examine their patients, but give them some medicine "to stop the bleeding or to relieve the symptoms," or, if they examine these patients and find an "ulcerated cervix," they may treat it with local applications until it becomes cancerous; and also many share the belief with the laity that if it is cancer it can not be cured.

It is only by the proper education of the physicians and of the laity that this condition can be remedied.

In our own cases we can see the effect of education in increasing the percentage of operable cases, and thus the percentage of cures, in the following ways:

1. Each year there is an increase in the percentage of cases diagnosed before the disease becomes inoperable, as may be seen by comparing the percentage of operable cases admitted during the first year of the Johns Hopkins Hospital with those admitted in the later years.

The hospital has been open for over fifteen years. During the first five years 106 cases of carcinoma cervicis uteri were admitted with an operability of 28 per cent., as compared with 162 cases admitted the second five years with an increase in the operability to 32 per cent., and 144 cases in the last five years with a still

higher percentage of operable cases, namely, 53 per cent., as compared with 28 per cent. for the first five years. Two factors must be considered in this increase in the operability of the cases—first, the education of the people, and, secondly, the use of the abdominal operation.

2. The percentage of cures is also higher, which is due to an earlier diagnosis and to a wider excision of the uterus and growth. As has been mentioned, 24 per cent. of 66 patients heard from are apparently free from cancer five years and more after operation. On the other hand, similar statistics taken three years ago show that only 12 per cent. of 41 patients heard from were living and apparently free from cancer five years and more after the operation.

3. The highest percentage of operable cases appear among the better educated and well-to-do women.

There are three wards open to gynecologic patients in that hospital, in which 11,382 patients have been treated, and of this number 412, or 3.6 per cent., suffered from carcinoma cervicis uteri. The private ward has received about 25 per cent. of all patients and about 26 per cent. of the cancer cases. The general or public ward for white patients has received about 59 per cent. of all cases and about 57 per cent. of the cancer cases, and the ward for colored patients about 16 per cent. of all cases and 16 per cent. of the cancer cases. The percentage of cancer cases in each ward has been about the same, namely, a little over 3.5 per cent. On the other hand, the percentage of operable cases is greatest in the private ward, as one would expect, and least in the ward for colored patients. There have been 110 cases of cancer of the cervix admitted to the private ward, of whom 45 per cent. were operable, as compared with 235 admitted to the free white ward, with an operability of 40 per cent., and 67 with only 23 per cent. operable admitted to the ward for colored patients. One interpretation of the above could be taken, and that is that the growth runs a more rapid course in the colored race; but the more correct one is that the patients admitted to the private ward are better informed and employ more competent physicians, and on account of both these factors the growth is diagnosed sooner than in those who are less fortunately situated.

Still another manifestation of education as a factor in the earlier recognition of this disease asserts itself. We have been able to hear from 125 of the 135 operable patients who survived the operation, after they have left the hospital, and only about 100 of the 250 inoperable patients, and we realize that it is easy to keep track of the well-to-do and educated people, while it is very difficult to keep track of the very poor. We have a right to infer that most of the inoperable cases we hear from belong to the better class of patients in the private and free white ward, and that the large number, 150 out of 250, whom we have been unable to hear from, must, for the most part, be among the poor and illiterate, thus demonstrating the higher percentage of inoperable cases among the poor than among the well-to-do.

The question arises, How should we educate the medical profession and the laity in regard to this matter? Clark,[4] in considering the importance of an earlier diagnosis in this condition, concludes that "the education of public opinion in medical subjects depends on the general medical practitioner," and we want "first an appreciation by the medical practitioner of the importance of the early recognition of cancer, and if this once is established it will soon be recognized by an intelligent contemporary public."

We must realize that it is difficult to reach or to change the views of all physicians who are in practice, and that it will take time for those just graduating to become influential in a community, and, as the result of the above, the education of the women through the family physician must be slow, especially as many women seldom consult a physician. The question presents itself as to whether or not it is justifiable to deal with the women more directly.

Winter[5] believes that, with the first appearance of symptoms, cancer of the uterus is always operable, and, influenced by this belief, he started a campaign against this disease in East Prussia. The results of this campaign have been published. In the year 1902 pamphlets were sent to all physicians and midwives in this region, and this was followed by a "warning to women," which was published in all the leading newspapers. As a result of this, family physicians not only examined their patients for cancer on the slightest suspicion, but the women consulted their physicians earlier and were more willing to be operated on. In one year the operability of uterine cancer in East Prussia was increased from 62 to 74 per cent. When one considers that during the last five years only 52 per cent. of the cases admitted to the Johns Hopkins Hospital were operable, and that many inoperable cases were refused admission, thus making the percentage of operable cases of all coming to the hospital considerably less than 52 per cent., the need and possibility of making an earlier diagnosis asserts itself.

THE IMPORTANCE OF A MORE RADICAL OPERATION.

In considering the prognosis made at the time of the operation in some of our cases, one is impressed that in certain cases in which the disease was apparently in a very early stage and the prognosis favorable, the growth returned, and that others are apparently cured where an unfavorable prognosis was made at the time of the operation on account of the extent of the growth. The above can easily be explained. In the apparently early cases, a hysterectomy was done with as little disturbance of the surrounding parts as possible, and on this account the disease was not all removed; while in the advanced cases a wide excision of the growth was indicated, and by doing this some of the patients were cured. It would seem that a radical operation was especially indicated in the so-called early cases, for the chance for a cure is not only greater, but the patient is in excellent condition, and, the uterus being freely movable, the operation can the more easily be accomplished, and on this account the primary mortality will be low.

WHAT MAY BE ACCOMPLISHED BY A MORE RADICAL OPERATION.

It should be the object of the surgeon to cure as large a percentage of patients as possible of all cases of cancer coming under his charge. In this hospital, we may hope to cure 20 per cent. of the cases operated on, but less than 6 or 7 per cent. of all the cases applying for admission. The surgeon, by operating on only the fav-

4. Clark: Progressive Medicine. Lea Brothers & Co., Philadelphia, 1904, vol. II, p. 131.

5. Winter: Bekämpfung des Uteruskrebeses in Ostpreussen, Cbl. f. Gyn., xxviii, p. 441, reviewed in THE JOURNAL, xliii, p. 229.

orable cases, might have a large percentage of cures, and yet, by so doing, the percentage of operable cases would be small and also the cure of all patients seen by him. So the first demand is to increase the operability of cancer not only by an earlier diagnosis but by a more radical operation. On the other hand, the percentage of cures must always be discounted by the primary mortality. With a very extensive operation it may be possible to increase both the operability of cancer, and the percentage of cures, but, if the primary mortality is too great it is contraindicated, for that operation should be done which will give the highest percentage of cures of all patients treated, with the lowest primary mortality. Undoubtedly, the highest percentage of cures would be accomplished by removing all the pelvic lymphatics and with them the uterus and all the tissue from pelvic wall to pelvic wall, including the lower ends of the ureters, and implanting the renal ends of the ureters into the bladder. The results of ureterovesical implantations are uncertain, the danger of ascending renal infection great, for cystitis following these operations occurs in a large percentage of the cases. An implanted ureter is an injured one, which is not likely to protect the kidneys from ascending renal infection as efficiently as a natural ureteral orifice.[6] From a study of specimens removed by the more radical operation (in which an attempt was made to remove the pelvic lymphatics and all the tissue lateral to the uterus, with the primary growth and uterus, either freeing the ureters from this tissue or removing their lower ends with it), it was found that the disease by direct invasion or metastasis had extended beyond the uterus in 12 of the 15 specimens. In these 12 cases, hysterectomy alone would not have removed the entire diseased condition. In seven of these cases there was a direct extension of the growth from the cervix; there were metastases to the parametrial lymph nodes in four cases; while an apparent metastasis to a parametrial lymph space (at some distance from the cervix) was found in only one case. In twelve cases in which the pelvic (iliac) lymph nodes have been studied, cancer has been found in six. These studies are unfinished and further investigations of the same cases may show an even greater number in which the growth is not limited to the cervix. The study of these cases has shown that there is no relation between the size of the primary growth and the presence or absence of lymphatic involvement and that only by the use of the microscope can we make a positive diagnosis of the presence or absence of metastases in the parametrium or pelvic lymphatics.

Are these more radical operations justifiable? Some claim that it is impossible to effect a cure in a case of cancer of the cervix if the disease has extended beyond the uterus, and on this account the vaginal hysterectomy is indicated, for it is attended with the lowest primary mortality. Of the 162 hysterectomies previously mentioned, 63 were vaginal, 26 combined abdominal and vaginal, and 78 abdominal. Comparison of the percentage of cures and also of the primary mortality in these three classes of cases is of no value, for the abdominal or combined abdominal and vaginal operations in many instances, have been used instead of the vaginal operation, because the growth was too far advanced for the vaginal route. It can never be hoped that the abdominal operation will be attended with as low a primary mortality as the vaginal; on the other hand, by the vaginal route the wide excision of the parametrium and pelvic lymph nodes is impossible. Whether one shall employ the vaginal route or the more radical operation in these cases, cannot be determined from statistics, for sufficient time has not elapsed since the use of the more radical abdominal operations to furnish enough cases to compare with those removed by the vaginal route.

Past clinical experience demonstrates the need of a more radical operation, and a study of the specimens removed by these operations show that the growth has invaded the surrounding tissues in a large percentage of the cases, 12 out of 15 cases studied in this hospital, and, on this account, hysterectomy alone seldom cures this condition.

Since the object of the surgeon is to save and not to take the life of the patient, these operations are justifiable only if they are not attended with too high a primary mortality, and for this reason we must clinically consider two distinct classes of operable cases from this standpoint.

1. Patients in whom the uterus is freely movable and the growth apparently early.

2. The cases in which the growth is apparently extensive and its removal difficult, the so-called "borderline cases."

In the first class of cases the patients are usually in good condition and the operation is relatively easy. In these cases, we should try to do as thorough an operation as possible. The lymphatics should be removed from the sides of the pelvis, the ureters freed, and all the tissue lateral to the cervix removed. (Later studies show that only a very small per cent. of the cases can be cured if the growth has metastasized.) We are thus able to improve the chances of a cure, and the patient being in excellent condition and the parts freely movable, the operation can be quickly accomplished and with a low primary mortality.

In the second class of cases, the patients are apt to be in poor condition and the extensive growth makes the operation very difficult. If the operation is indicated, the first demand is the removal of the primary growth, and the removal of the pelvic lymphatics should be a secondary consideration and should be reserved for the last and should be removed only if the condition of the patient warrants it, for we should expect to find them involved in only from 50 to 60 per cent. of these cases. In these cases, the operation is difficult and the primary mortality necessarily high, especially as the patients are apt to be in poor condition and unable to stand a severe operation. It seems that unless all can be removed, nothing should be tried, for severe operations are not justifiable for gaining very uncertain and temporary palliative results. These are the cases in which excision of the lower ends of the ureters and portions of the bladder is justifiable if indicated. By so doing, I believe that we may hope to cure some of these cases, for the parametrium apparently is able temporarily to check the further advance of the disease, and by a wide excision of the entire growth we should expect to cure these cases, unless metastases have occurred in parts which cannot be removed.

WHAT CAN BE DONE FOR THE EXTENSIVE INOPERABLE CASES.

The resection and reimplantation of the ureters above the growth, in order to prevent the threatened renal in-

6. Sampson: Ascending Renal Infection, etc. Johns Hopkins Hospital Bulletin, 1903, vol. xiv, pp. 334-352; and subsequent publications in the same journal.

sufficiency due to the pressure of the growth on the ureters, does not seem to be desirable, for the relief can only be temporary. The attempts to starve the growth by the ligation of the blood vessels supplying these parts has given at the best only temporary relief, and, in a few instances, by interfering with the nutrition of these parts, has given rise to disastrous complications. We can not hope to cure these cases by the cautery, for the growth has involved the various neighboring structures, as bladder, ureters, rectum, large blood vessels and nerves, all of which would be injured by the extensive use of the cautery. It would seem that these cases should be treated as their symptoms arise, and one should attempt to relieve symptoms and not to prolong life, unless especially so desired by the patient and her friends, and on this account as little as possible should be done locally.

It is the duty of those who are interested in cancer of the uterus thoroughly to study the subject and to determine by what means the growth can best be removed, and to impress on the medical profession and through them, the laity, that cancer of the uterus, if taken in time, can be cured in a large percentage of the cases, and that bleeding in some form is frequently but not always the earliest symptom of this condition. For this reason, a diagnosis should be insisted on not only in every case of uterine bleeding but in all cases with symptoms referable to any pelvic trouble. With the proper education of the medical profession and of the public, not only would the percentage of operable cases be increased, but as these would be diagnosed earlier the primary operative mortality would be less and the percentage of cures greater.

CARCINOMA OF THE FUNDUS OF THE UTERUS.

Carcinoma of the fundus of the uterus is less important than cancer of the cervix, because it is rarer, its duration is longer, and operative treatment is more satisfactory on account of the higher percentage of cures and lower primary mortality, for apparently only late in the disease does it extend beyond the uterus. The clinical diagnosis of cancer of the body of the uterus is more difficult and can only be made positively by the microscope. We have had 78 cases of cancer of the body of the uterus as compared with 412 cases of cancer of the cervix. Of these 78 cases, the clinical diagnosis was confirmed by the microscope in 67, and, on account of the difficulties of diagnosing this condition without the microscope, only the 67 cases will be considered. Only 11 of these 67 were inoperable, namely, 16 per cent. as compared with the 61 per cent. of the 417 cases of carcinoma of the cervix which were inoperable. One slight source of error exists and that is all the cases of inoperable cancer of the cervix were not curetted, and in a few of them the growth may have originated in the fundus and the cervix may have been involved secondarily. A comparative study of the two forms of cases is interesting.

In comparing the 56 operable cases of carcinoma of the fundus with the 162 operable cases of carcinoma of the cervix, we note that those afflicted with carcinoma of the fundus are older, over 67 per cent. of the cases being over fifty years old, as compared with about 30 per cent. of the other cases. The youngest patient with cancer of the fundus was thirty years old, while 6 of the 162 operable cases of cancer of the cervix were women less than thirty, the youngest being twenty-two years old. Forty-two per cent. of the patients with cancer of the body of the uterus had never been pregnant, as compared with only 3 per cent. of the operable cases of cancer of the cervix. The duration of the disease is longer in cancer of the fundus, as 67 per cent. of the cases had been bleeding for over a year before admission, as compared with only 21 per cent. of the operable cases of cancer of the cervix. In 10 of the 56 cases of cancer of the fundus there was a history of bleeding for over four years. In two of these 10 cases, the bleeding may have been due to a submucous myoma; in one case, however, the bleeding was of six years' duration and the cancer was the only condition found to account for it. On the other hand, in only three of the 162 cases of cancer of the cervix was there a history of bleeding for three years, and possibly in one of these three cases the bleeding had existed for over four years. The most interesting comparison of the two classes of cases occurs in the results of the operative treatment. The primary mortality in the operative treatment of the 56 cases of cancer of the body was 7 per cent. as compared with 16 per cent. for the 162 cases of cancer of the cervix operated on. Five years or more have elapsed since the operation in 24 cases of cancer of the body. Of this number, 2 patients died from the operation, we have been unable to hear from 6, the growth returned in 3, and 13 are living and apparently free from recurrence. Eighty-one per cent. of the 16 patients heard from as living, or, if we wish to count those not heard from as having died from recurrence, we realize that 13 of the 24 patients operated on are living and apparently cured, namely, 54 per cent. Of the 84 cases of cancer of the cervix, in which five years or longer have elapsed since the operation, 8 patients died from the operation, we have been unable to hear from 10, we know the growth returned in 50, and 16 are living and apparently free from recurrence; i. e., 24+ per cent. of the 66 patients heard from are living, or 19 per cent. of the 84 cases. We can readily see that on account of the slow growth of cancer of the body of the uterus, it is more frequently diagnosed before it becomes inoperable than cancer of the cervix, and because it remains restricted to the uterus for so long a time, the operative treatment is less severe and therefore the primary mortality is lower and the percentage of cures higher, for hysterectomy in a large percentage of cases removes the entire diseased condition. It is of the greatest importance to make a diagnosis in cancer of the fundus, because the operative treatment is attended with such a low primary mortality and such a favorable prognosis can usually be given.

The Usefulness of Drugs.—Many practitioners expect entirely too much from drugs and there are others who refuse to recognize the value accruing from the intelligent use of remedies tending to effect a modification of pathologic processes or the alleviation of symptoms. There should be more unanimity of opinion among physicians as to the usefulness of drugs. What is needed is a better knowledge of the natural cause of the different diseases. In all of the acute specific diseases, as pneumonia and typhoid, we have no drug which will shorten the process, and it seems worse than useless to continue the administration of remedies for any other purpose than palliation and the promotion of the patient's comfort. That patient will be saved much useless drugging whose physician has a clear conception of the pathology of the ailment and the limitations of his medicines.—*Ft. Wayne Med. Jour.-Mag.*

CESAREAN SECTION FOR PLACENTA PRÆVIA AN IMPROPER PROCEDURE.

THE STATISTICAL STUDY OF 25 REPORTED CASES WITH THE COMPARATIVE MORTALITIES OF 1,257 CASES OF CESAREAN SECTION AND 4,731 CASES OF PLACENTA PRÆVIA TREATED OBSTETRICALLY.*

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On account of the marvelous results obtained by asepsis and antisepsis, and by the safe administration of anesthetics, obstetrics is becoming an inviting field for surgical intervention. Indeed, operative obstetrics has so broadened in the past decade that now the care of parturient women is a distinct surgical specialty, and its wealth of literature vies with that of other specialties. In fact, in certain directions, it almost seems as if the *furor operativus* which swayed the ovariotomist one and two decades ago, has seized those who come in contact with pregnant and parturient women. Operations which are safe and expedient when performed for one type of indications are applied erroneously to complications of a very different sort; deductions made from one class of cases are fallaciously made to fit another without due consideration of the consequences. The application of the Cesarean section to placenta prævia comes within this category. It is folly to compare the results of Cesarean section for a contracted pelvis with those of placenta prævia; at most we may compare the orthodox methods of treating placenta prævia with the abdominal operation for the same indication.

No one can deny that Cesarean section is of signal value in conditions complicated by hemorrhage from placenta prævia, but this new impetus, started by general practitioners and surgeons, who candidly admit that they know little or nothing about obstetrics, will not receive the approval of obstetricians. I feel keenly that a word of warning should be given against the indiscriminate application of Cesarean section for placenta prævia, for most certainly American and Italian physicians, who alone are treating this obstetric complication by laparotomy, will regret their advocacy of the procedure when the reaction comes. Thus far Cesarean section for placenta prævia, *per se*, has not been performed by an obstetrician whose experience would permit him to speak authoritatively—with one exception, all the obstetricians who have used the procedure have operated in the face of dangerous complications which dictated the conduct of the case; *per contra*, the other operators, with the exception of one, possibly two, had no obstetric reason for their course.

THE MORTALITY OF CESAREAN SECTION.

Much has been written of the safety and simplicity of Cesarean section. For example,: "This is not a difficult operation," writes Dr. Andrews[1]; "The classic Cesarean section has as low a mortality as an easy ovariotomy," according to Boyd[2]; "Its (Cesarean section's) extremely low maternal mortality renders it again the preferable operation"—Reynolds.[3] In sharp contrast to the statements of those who minimize the dangers, Schauta's[4] opinion is worthy of a place in contradiction: "No one is justified in regarding Cesarean section as a simple operation, free from danger, or harmless in its after-effects." Also, Williams[5] decries the assertions of its simplicity.

TABLE I—CESAREAN SECTIONS.

Authority.	Total Cases.			Conservative Operations.			Porro Operations.			Children.		
	No.	Died.	Per Cent.	No.	Died.	Per Cent.	No.	Died.	Per Cent.	No.	Died.	Per Cent.
Ahlfeld[6]	13	4	30.7	11	4	36.	2	0	0	13	2	15.4
Braun[7]	74	6	8.3	34	4	11.8	40	2	5	74	6	8.1
Deny[8]	12	5	41.6	10	5	50.	2	0	0	12	4	30.7
Gummert[9]	11	0	0	9	0	0	2	0	0	11	1	9.
Leopold [10]	100	10	10.	71	7	9.8	29	3	10 3	100	8	8.
Strebel[11]	12	1	8.3	10	1	10.	2	0	0	12	1	8.3
Weber[12]	10	1	10.	....	....	.....	....	....	....	10	2	20.
Zweifel[13]	76	1	1.3	....	....	.....	....	....	....	76	0	0
Heidenhain[14]	4	0	0	....	....	.....	....	....	....	4	0	0
Coe[15]	23	3	13.0	....	....	.....	....	....	....	23	2	8.7
Harris[16]	21	2	9.5	....	....	.....	....	....	....	21	0	0
Charles[17]	10	0	0	....	....	.....	....	....	....	10	0	0
Bar[18]	10	1	10.	....	....	.....	....	....	....	10	0	0
Cragin[19]	9	1	11.1	....	....	.....	....	....	....	9	1	11.1
Truzzi[20]	16	2	12.5	....	....	.....	....	....	....	16	3	18.7
Chrobak[21]	19	3	15.8	10	1	10.	9	2	22.2	....	....	....
Schauta[22]	67	8	11.9	58	6	10.34	9	2	22.2	....	....	....
Baumm[23]	10	2	20.	....	....	.....	....	....	....	....	....	....
Everke [4]	37	12	32.	....	....	.....	....	....	....	....	....	....
Hinschius[25]	30	2	6.7	....	....	.....	....	....	....	....	....	....
Olshausen[26]	29	2	6.9	....	....	.....	....	....	....	29	0	0
Reynolds[27]	23	0	0	....	....	.....	....	....	....	....	....	....
Williams[28]	12	1	8.3	....	....	.....	....	....	....	....	....	....
Cameron[29]	30	3	10.	....	....	.....	....	....	....	....	....	....
Pasquali[30]	9	1	11.1	....	....	.....	....	....	....	....	....	....
Huebl[31]	51	2	3.9	....	....	.....	....	....	....	....	....	....
Hahn[32]	11	2	18.1	....	....	.....	....	....	....	....	....	....
Frommel[33]—1893	76	13	17.1	44	5	11.3	32	8	25.	15	2	13.3
Frommel 1894	86	10	11.6	51	4	10.3	35	6	17.1	62	6	9.6
Frommel—1895	68	18	26.4	38	11	28 9	30	7	23.3	66	13	19.7
Frommel—1896	91	12	13.1	51	7	13.7	40	5	12.5	90	16	17.7
Frommel—1897	111	14	12.6	83	9	10 8	28	5	17 8	108	15	13.8
Frommel—1898	96	11	11.4	76	10	13.1	20	1	5.	98	11	11.2
Totals	1257	153	12.1	556	74	13.3	280	41	14.6	869	93	10.7
Ces. Sec. for Plac. Præv.	25	5	20.	20	5	25.	5	0	0	25	9 *16	36 64

*Seven died within 14 days.

My compilation of statistics proves indisputably that the claims made by Schauta and Williams are just ones. The collective maternal mortality for 1,257 (Table 1) conservative and Porro operations was 12.1 per cent.; the Saenger operation in 556 cases had a mortality of 13.3 per cent., while the Porro operation was performed 280 times with a mortality of 14.6 per cent. The collective fetal mortality in 869 cases was 10.7 per cent. Of course, most conservative sections were done in the interest of the child, while many Porro operations were made on behalf of the mother, with, perhaps, the presence of a dead child. Surely these figures are sufficient to prove that Cesarean section and its Porro modifications are serious operations, not to be lightly undertaken.

Operators are too prone to practice a process of exclusion in determining their mortality rates by eliminating the unfavorable cases which terminated in death; I am in perfect accord with those who desire to classify their Cesarean section operations, but the method generally in vogue of excluding certain fatal terminations can but vitiate their conclusions. The only logical course is to divide all cases into those operated on under favorable and those under unfavorable circumstances, and to estimate the several mortalities—this would remove all doubt at once. Including unfavorable cases which recovered with those treated under ideal conditions, or transferring deaths which properly come under the latter class to the former, only furnishes us with erroneous statistics. Surgeons generally classify their appendectomies into "interval" cases and cases with active peritoneal inflammation; to include the results of the former with the latter would be simply juggling with figures.

* Read before the Chicago Gynecological Society.

In obtaining the data for the mortalities of Cesarean section, I have appropriated all clinical cases obtainable; it is presumed that the reports of large clinics, or of individual operators of considerable experience, are more favorable from the special experience acquired, than collective data from the literature—the data furnished by Frommel[33] tend to corroborate this statement. If reporters give a corrected mortality, I have given the full number of deaths, as the patients operated on under adverse conditions who recovered were included among the successful cases to swell the statistics. This explains why, in some instances, the deaths tabulated by me do not conform to the numbers usually quoted—examples being the results of Zweifel,[13] Leopold,[10] Schauta,[22] Chrobak,[21] Braun,[7] and Williams.[28] It is not here necessary to argue as to the difficulty or simplicity of the Cesarean operation, that depends largely on the skill and ability of the operator in carrying out surgical details, and the training of his assistants, but this much may be stated: this operation clearly is one with sharp lines drawn for its technic in uncomplicated cases. The most vital danger is in the liability of infection from the parturient canal, a danger which is not absolutely under the control of the operator even under the most favorable circumstances. Hernia is particularly liable to develop in the scar after a Cesarean section, probably from the length of the wound; Abel[34] had 8 of such postoperative accidents in 53 women. Again, adhesions may occur between the abdominal wall, uterine incision, intestine or omentum, which may have a very deleterious effect on the health of the patient, or which may be an item of great danger during the puerperium (Table 4, Case 21), or during a subsequent pregnancy.

THE MORTALITY OF PLACENTA PRÆVIA.

General Considerations.—The rule in all surgical hemorrhages is to arrest bleeding at once. In obstetric work, practitioners do not see the same necessity for stopping bleeding. If the slightest show of blood during pregnancy is recognized as being of serious import, much harm to women may often be prevented; hemorrhages in pregnancy never should be lightly considered. After a diagnosis of placenta prævia is made, much danger and many deaths could be prevented if the attendant would actively manage the case. It is an unwise procedure to attempt to carry a woman along with placenta prævia, unless she be in a hospital, or at least under the immediate care of a skilled attendant. Placenta prævia in nearly all instances should be held an indication for most energetic treatment—just as are all surgical hemorrhages. We should always consider that a woman afflicted with this complication of pregnancy is in grave danger until the child and secundines are delivered. If Tait's[35] estimate of the mortality of 50 per cent. in placenta prævia in general practice is correct, then the mortality is not due to the want of a proper procedure, but to procrastination, to half-hearted methods of treatment, to slovenly and careless application of asepsis, to the absence of adequate skilled assistants, and, finally, to a lack of a full armamentarium to combat the complications present. No surgeon would undertake to perform a dangerous operation without sufficient preparation and trained assistants, but the rule still is for physicians unassisted to hazard major obstetric operation in the face of most portentious complications, or with untrained help—a custom which should be condemned. As obstetric cases are so often emergency ones, we must condone the necessity, but congratulate the country practitioner who unaided successfully carries a parturient woman through the stress of a difficult delivery; but such a thing is inexcusable in a city with assistants within easy call. I have in mind a young woman in a wealthy family in Chicago, the birth of whose first-born was expected. When about seven months of the pregnancy had elapsed a severe hemorrhage occurred; in consultation it was agreed that placenta prævia centralis existed; it was further agreed that the woman should be tided over a period in hopes of giving the child a better chance. Suddenly an alarming hemorrhage occurred; the physician, with no definite plans laid for this likely contingency, rushed to the house, turned and delivered an asphyxiated child. While he and the nurse were enthusiastically laboring over the baby, entirely ignoring the mother, the patient died of postpartum hemorrhage. Such care of parturient women accounts for many deaths in placenta prævia.

The custom of reporting a series of cases of placenta prævia without clearly summarizing the data of the various types of placental presentations offers inexact information; it is indispensable that the cases should be classified as lateral, marginal, partial, and complete placenta prævias. Without such classification we are presented with a jumble of facts which can not be of much clinical or scientific value. Lateral implantations of the placenta in the presence of a normal vertex or of a breech presentation, ordinarily require no further treatment than the timely artificial rupture of the membranes—rarely need such cases terminate fatally. Central implantations, or cases in which there is an abnormal presentation, demand energetic treatment; between the extremes, the procedure elected depends on local conditions. The too common mistake is to consider that there is one method of treatment which will fit all cases. It is not the time or place to enter on the treatment of such hemorrhages, but the brilliant results of Behm,[36] Blacker,[37] Stratz,[38] Fry,[39] Hirst,[40] Drejer,[41] Koblanck,[42] Welti-Pinard,[43] Murphy,[44] De Lee,[45] Amadi et Ferri[46] (Table 3), offer encouraging results for obstetricians, and eliminate the need of more drastic and fatal measures. In 1,029 cases treated by the above the mortality was 3.3 per cent. These results were obtained generally by Hicks' version, metreurysis, and rupture of the membranes.

In compiling my statistics I availed myself of the exhaustive investigations of Read,[47] who collected 1,024 cases of placenta prævia recorded from the time of Portal, in 1672, to 1861, his information, largely, almost exclusively, being that found in the English and French literature. As his tables and deductions have not received proper recognition, and have never been collectively tabulated, even by Read himself, I have deemed it of value to give a mortality résumé of his tables.

Indeed, I have computed practically all the figures credited to Read in this paper from a study of the reports compiled by him. Müller's[48] statistics have been very popular and need no introduction. The results shown by Read and Müller are widely divergent from the statement of Tait[35] that the mortality of placenta prævia is near 50 per cent. He based his opinion entirely on his own mortality, which reached that appalling figure. The combined death rates of Read and Müller (Table 2) for 1,975 cases of all kinds, 692 complete prævias and 618 incomplete prævias, were 23.6, 30.9 and 15.0 per cent., respectively. It must be fully

recognized that all these cases were treated before the days of antispesis and asepsis. In Read's work, 229 women died, of which only 38 are specifically recorded as dying of peritonitis, inflammations, slow fevers, etc., a percentage of 16.5. Müller[48] shows that of 212 deaths, 94 occurred shortly after delivery, 54 (25.4 per cent.) succumbed to infections, and 46 died from other diseases of the puerperium. Undoubtedly, many of these latter instances were really due to infective processes. K. Braun[49] offers more conclusive data: of his 37 cases, 4 died from excessive blood losses, and 5 from infections. Finally, Strassmann[50] lost 22 of his 231 patients, 9 falling victims to infections.

Rigid Cervix.—Our surgical friends would have us believe that a rigid os is present in many cases of placenta prævia—a statement contrary to the experience of nearly all obstetricians. The popular conception of not be so denominated. Read's collection contains 453 cases in which the condition of the cervix is mentioned—of these 93 (20.5 per cent.) were "rigid." Müller gives 48 patients with the cervix described as rigid in 531 cases of placenta prævia—9.05 per cent., but he considers an os less than a *"Thalergrosse"* as in the domain of rigidity, so claims that it is nearly 50 per cent. In sharp contrast to these figures are the findings of Strassmann[50] with 231 cases, Schauta[4] with 234, Webster[51] with about 50, C. G. Cumston[51] with 17, Richardson[52] (at the Boston Lying-in Hospital), 75 cases, a total of 606 placenta prævias without one rigid os. C. M. Green[52] writes me that he never saw an instance of rigid os in placenta previa, and states that Professor Richardson has had the same experience in his extensive observation. Higgins[53] has ably reported Richardson's hospital work on the treatment of hemor-

TABLE II—CASES OF PLACENTA PRÆVIA COLLATED BY WILLIAM READ, BOSTON 1861.

(Collective Mortality Rate has not been heretofore estimated).

	Total Cases.							Complete Prævia.							Incomplete (Partial).						
	Mothers.			Children.				Mothers.			Children.				Mothers.			Children.			
	No.	Died.	Per Cent.	No.	Died.	?	Per Cent.	No.	Died.	Per Cent.	No.	Died.	?	Per Cent.	No.	Died.	Per Cent.	No.	Died.	?	Per Cent
Column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Table 1. Spontaneous separation of placenta; spontaneous birth of fetus.	52	0	0	52	26	15	70.2	11	0	0	11	8	....	72.7	6	0	0	6	4	1	80.
Table 2. Spontaneous separation of placenta; artificial delivery of fetus.	26	5	23.8	26	17	7	89.4	0	0	0	0	....	....	0	1	0	0	1	1	..	100
Table 3. Artificial separation of placenta; spontaneous delivery of fetus.	31 †	2	66.6	31	24	4	88 8	17 †	1	6.25	17	12	2	80.	7	1	14.2	7	6	1	100.
Table 4. Artificial separation of placenta; artificial delivery of fetus.	51	11	21.5	51	29	13	76.3	25	4	16.	25	14	7	77.7	6	2	33.3	6	3	1	60.
Table 5. Partial separation of placenta; spontaneous delivery of fetus.	123	14	11.3	124 *	56 *	12	50.	18	2	11.1	19 *	10 *	1	58.8	75	7	93.3	75	34	4	47.8
Table 6. Partial separation of placenta; artificial delivery of fetus.	555 †	139	25.0	559 4*	247 2*	95	53.6	201	56	27.8	203 2*	100 *	33	59.5	122 †	23	19.0	123 *	69 *	10	60.7
Table 7. Placenta perforated; fetus delivered.	40	11	27.5	40	20	8	62.5	35	10	28.5	35	17	7	60.7	1	0	0	1	1	..	100
Table 8. Died undelivered	32	32	100.	34 2*	34 2*	0	100.	20	20	100.	22 2*	22 2*	....	100.	2	2	100.	2	2	..	100
Table 9. Placenta completely separated; spontaneous delivery of fetus.	58	2	3.4	58	36	3	65.4	5	0	0	5	3	....	60.	0	..	0	0	....	..	.....
Table 10. Separation of placenta; artificial delivery of fetus.	34	5	17.2	34	24	1	72.7	3	1	33.3	3	3	....	100.	0	..	0	0	....	..	.....
Table 11. Partial separation of placenta; spontaneous delivery of fetus.	4	0	0	4	2	1	66.6	0	....	0	0	....	....	0	4	0	0	4	2	1	66.6
Table 12. Partial separation of placenta; artificial delivery of fetus.	18	8	46.4	18	5	2	68.7	13	5	38.4	13	8	1	66.6	1	1	100.	1	....	1	0
	1024	229	20.4	1031	526	161	60.4	348 †	99	28.5	353	197	51	64.9	225 †	36	16.0	226	122	19	58.9

CASES OF PLACENTA PRÆVIA COLLECTED BY WM. READ AND L. MUELLER.

Cases Collated Previous to 1877.

Read's Cases	1022	229	20.4	870	526	....	60.4	347	99	28.5	302	197	....	64.9	224	36	16.0	207	122	..	58.9
L. Mueller: Placenta Prævia; 1877. Pp. 228, 229, 251, 255.	953	237	24.8	2365	1518	....	64.18	345	109	31.5	320	223	....	69 6	394	57	14.2	382	182	..	47.6
Total Cases: From 1661 (Portal) to 1877	1975	466	23.6	3234	2043	....	63.1	692	208	30.9	622	420	....	67.5	618	93	15.0	589	304	..	51.6

? Designates uncertain termination of children. † Designates uncertain termination of mother. * Designates occurrence of twins, of which there were 7.

this matter is that in placenta prævia the cervix is characteristically softened and the os dilatable, if not dilated, at any period of pregnancy or labor in which the first noteworthy hemorrhage occurs. Therefore, too many operators, relying on this erroneous opinion, attempt to dilate manually with the expectation that the os will open at once and with ease, or that they may turn and rapidly extract the child. If the practice of rapid dilatation be supplanted by a method which will surely stop bleeding, soften the cervix, and secure dilatation, and if extraction through a partially dilated os is not attempted—which always is a serious obstetric error—most of these instances of "rigid os" will cease to exist. These practices were common in the days of Read and Müller, so they record incorrectly many examples of cervical rigidity which now would

rhages due to this cause. Strassmann lost 7 women from cervical tears, due entirely to too rapid extraction.

OBJECTIONS TO CESAREAN SECTION FOR PLACENTA PRÆVIA.

The objections to Cesarean section for this indication naturally fall under these headings: 1, the child. 2, the lower uterine segment as the placental site; 3, absence of facilities for a laparotomy; 4, the operation can rarely be a primary procedure; 5, infection.

1. *The Child.*—I feel strongly that the life of the mother is a far more valuable unit of the home, of the community and of the state than her unborn baby, and that she is entitled to first consideration in the face of the grave dangers of a difficult labor. I have had frequent opportunity to test the lay opinion on this matter and have found an almost unanimous concurrence in

this belief. "I can not too strongly deprecate the frequency of so-called therapeutic abortion, or of craniotomies on the living child without due consultation, but it should be an obstetric aphorism that the mother must not be sacrificed to save a child.

If patients have implicit confidence in a physician they will rely on his judgment, and will accept the more serious, more dangerous procedure because he minimizes the dangers, or possibly does not fully appreciate them himself. The first awakening of the maternal instinct in most women comes with the perception of fetal life, and takes deep root with the new-born babe at her breast. This must be true, for if it were not so how could so many women ruthlessly have criminal abortions produced, or produce them themselves? In this country, as in France, the low birth rate is due to true race suicide, not lowered fecundity of women. If it is a scientific procedure to perform a therapeutic abortion to save the life of the mother, or only too often for a lesser indication, it is tenable to believe it is equally justifiable to do the craniotomy for the same purpose, or, perhaps, to elect that operation which will jeopardize the mother the least, even though the fetal death rate is higher. The latter method is permissible, as it does not aim to take fetal life, while the former methods are absolutely prohibited by the Catholic Church. The profession may not know it, but the church prohibits operations for extrauterine pregnancy; this prohibition would not be countenanced by physicians.

Even at best, the life expectancy of a new-born baby can not compare to that of an adult; the mother is a social entity, the child at best is but a possibility. The mortality of children under 20 years of age in Chicago in 1903 was 37 per cent. (advanced data furnished by the courtesy of Dr. Reynolds, Commissioner of Health). In 1896 the mortality was 49.6 per cent. In other words, a new-born baby has the same chance of living to 20 as a woman of 55 has of living to 77.5 years of age (data furnished by the Mutual Life Insurance Company of New York.[54]) Budin[55] has shown that in France the mortality of children under 1 year of age is greater than of people between 80 and 90 years.

Table 3 shows that the brilliant results of the modern (since 1877) treatment of placenta prævia are principally on the side of the mother, the mortality being reduced from 23.6 per cent. to 7.36 per cent (column 3), a reduction of nearly 70 per cent. Fetal deaths have not declined so materially, the death rate before 1877 being 63.1 per cent., and since that year 54.1 per cent., a reduction of about 15 per cent. Read[47] had 569 cases in which the period of pregnancy was noted —373 (65.6 per cent.) were premature. Müller showed that in 595 infants 329 (55.3 per cent.) were premature. The high fetal mortality is due to placental separation, produced or spontaneous, which causes asphyxiation, if not fatal fetal hemorrhage, to the immaturity of the fetuses, and to the operations employed. Even though the children are born alive, their life expectancy is not great. Kuhn had 43 placenta prævias in private practice—at the end of two months 2 children remained alive, a gross mortality of 96 per cent.

2. *Lower Uterine Segment.*—There is normally a paralysis of the placental site—that of Rokitansky.[71] This usually is not of moment when the placenta is normally situated, but when it is attached to the lower segment this paralysis often is of grave moment, for the uterine wall below the retraction ring has a minimum power of contraction and retraction. In placenta prævia, therefore, we often have disturbances in the third stage from an exaggerated placental site paralysis. Aside from this physiologic explanation for placental retention, there is often an actual pathologic adhesion of the placenta—the occurrence of which offers a most dangerous complication to the labor. Müller found 78 instances of placental adhesion in 341 cases—22.8 per

TABLE III—PLACENTA PRÆVIA. ANTISEPTIC PERIOD.

	Total Cases.						Complete.						Partial and Lateral.					
	Mother.			Child.			Mother.			Child.			Mother.			Child.		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	No.	Died.	Per Cent.	No.	Died.	Per Cent.	No.	Died.	Per Cent.	No.	Died.	Per Cent.	No.	Died.	Per Cent.	No.	Died.	Per Cent.
Blacker[56]	22	1	4.5	22	8	36.3												
Kouwer[57]	8	3	37.5	8	3	37.5												
Ribbius[58]	98	7	7.1	98	39	40.8												
Stratz[38]	57	1	1.7	57	36	63.												
Fry[39]	14	0	0	14	5	35.7												
Galabin[59]	92	15	16.1	92	69	75.												
Haeutel[60]	123	12	9.7	123	92	74.1												
Hirst[40]	28	0	0	28	14	50.												
Siebert[61]	24	4	16.8	24	8	33.6												
Dorman[62]	84	10	11.9	84	38	45.												
Welti-Pinard[43]	149	4	2.6	149	34	32.7												
Lomer[63]	236	21	8.9	178	105	60.												
Drejer[41]	49	2	4.	50§	12	23.5												
Platzer[64]	46	4	8.7	46	25	53.2												
Zedler[65]	16	2	12.5	16	6	37.5												
Higgins[53]	75	8	10.6															
Rotunda Hospital[66]	74	3	4.0															
Murphy[44]	61	2	3.2															
Klein[67]	138	13	9.4															
Schauta[4]	234	16	6.8	234	127	54.	50	9	18.	50	35	70.	182	7	3.8	182	92	50.5
Strassmann[50]	231	22	9.5	231	144	61.25	55	12	21.8	55	48	87.3	176	10	5.6	176	96	53.9
Driessen[68]	125	19	15.2	125	80	64	53	13	24.5	53	43	81.3	72	6	8.3	72	35	49.3
Doranth[69]	216	20	9.3	216	152	70.3	50	4	8.	50	41	82.	80	6	7.5	80	40	50.
Fournier[70]	7	0	0	7	3	43	2	0	0	2	1	50.	3	0	0	3	2	66.6
Koblanck[42]	467	18	3.8	.....	.....	.....	86	7	8.1	.....	.....	.....	381	11	2.8	.....	.....	.....
DeLee[45]	30	1	3.3	31§	13	41.9	6	1	16.6	6	6	100.	24	0	0	25	7	28.
Amadi et Ferri[46]	100	5	5.	100	32	32.	28	1	3.5	.....	.....	.....	72	4	5.5	.....	.....	.....
Behm[36]	52	0	0	52	30	60.	20	0	0	.....	.....	.....	32	0	0	.....	.....	.....
Totals	2756	213	7.36	1985	1075	54.1	350	47	13.4	216	174	80.5	1022	44	4.3	538	272	50.5
Read-Mueller	1975	466	23.6	3234	2043	63.1	692	208	30.9	622	420	67.5	618	93	15.0	589	304	51.6
Grand Totals	4731	679	14.3	5219	3118	59.7	1042	255	24.4	838	594	70.8	1640	137	8.3	1127	576	51.1
Cesarean Section for Placenta Prævia.	25	5	20.	25	9 *16	36. 64.	9	1	11.1	9	2	22.2	9	2	22.2	9	3	33.3

* 7 died in 14 days (added as interesting data). § Designates occurrence of twins.

cent. The combination of imperfect retraction of the lower segment and placental adhesions would seriously compromise the technic of Cesarean section, which, with the concomitant anemia, would directly jeopardize the life of the woman. These factors alone substantiate Schauta's statement that "to replace version by Cesarean section in such cases (placenta prævia) would add another greater danger to that already existing." The uterovaginal tamponade has been recommended as an active remedial agent, or as a routine prophylactic measure in the after-treatment of placenta prævia by Duhrssen[72] and others. I believe thoroughly in this postpartum uterovaginal tamponade, and use it as a routine in placenta prævia. Vicarelli[73] has recommended this tamponade after Cesarean operations, and has used it in 7 cases. Bernays[74] and Swift (Table 4. Cases 4 and 26) used small pieces of gauze for the same purpose, but the amount used could not be denominated uterovaginal tamponade, as they were in Vicarelli's cases. We feel that uterovaginal tamponade in Cesarean section may be dangerous by exciting too active uterine contractions, thereby jeopardizing the sutures, and yet may be ineffectual from the inability of the operator to pack tightly the point most needed, the placental site.

3. *Absence of Facilities for a Laparotomy.*—The observance of minute surgical details determines the success of all surgical work; if one fact has been definitely, absolutely, proven it is that the best results in surgery can only be obtained in a well-equipped operating room with skilled assistants. Obstetrics is a surgical specialty, and Cesarean section is an abdominal operation which demands skilled assistants with most scrupulous regard to an aseptic technic. Great as are the risks of puerperal infection in placenta prævia, opening the abdomen offers immeasurably greater dangers with untrained help and hurried, inadequate preparation. In this connection may be mentioned the qualifications of the operator, as laid down by two surgical advocates of the Cesarean operation for placenta prævia. Bernays[74] wrote in 1882: "I would recommend Cesarean section if a man had performed or assisted at 200 abdominal operations and the mortality was below 7.5 per cent. as a substitute to Hicks' version, or the alternative measure—if a surgeon is not at hand—do version."

Donoghue,[75] entering the domain of obstetrics, proclaimed this in 1900: "For the successful performance of version an obstetrician having the necessary experience (the performance of at least 50 versions, for instance, being considered sufficient experience) is not so readily obtainable," and then continues with a rhapsody on Cesarean section for placenta prævia with obstetric considerations omitted. As there are exceedingly few available men with surgical proclivities who have performed 200 laparotomies, and still fewer practitioners, yes obstetricians, who have had opportunities of performing 50 versions, we are constrained to believe our surgical friends would have nearly all women afflicted with placenta prævia buffet the ebbing waves of their own life-blood stream between Scylla and Charybdis, awaiting the 50-case versionist, or the 200-case laparotomist.

4. *Rarely Can the Operation Be a Primary Procedure.*—Rigidity of the soft parts, cervical rigidity especially, is the indication most frequently suggested by surgeons. The consistency of a particular cervix is generally only determinable by attempts to secure dilatation of the os. Again, during the protracted period of preparation, hemorrhages may continue, necessitating vaginal tamponade. Attempts at dilatation, or measures instituted to allay bleeding, or efforts to deliver, at once make the Cesarean section a secondary operation. Obstetricians are almost a unit in agreeing that after vaginal procedures have been employed, the safe time for a Cesarean section is gone.

5. *Infection.*—At term the vagina normally is free from active pathogenic germs, but under circumstances not always under control, or in conditions as yet not fully recognized, a bacterial flora of marked virulency may develop. Undoubtedly, the presence of blood clots, or of active bleeding, by alkalinizing the vaginal secretions, will offer a habitat for the development of the micro-organisms usually present, or introduced by unclean hands, and dirty instruments. A puerperal infection whose atrium is the placental site is peculiarly dangerous to the parturient woman on account of its intimate relation to the veins and lymphatics. The almost direct communication of the veins and lymphatic of the lower uterine segment and of the cervix with their allied structures in the parametrium makes an infection introduced in these uterine divisions particularly liable to dissemination. These anatomic considerations go a long way toward explaining the great frequency of postpartum infections in placenta prævia. The clinical picture is completed by unclean fingers and unsterilized instruments coming in contact with the placental site during a protracted operative delivery; during the lying-in period the ascent of infective lochia may offer additional liability of an infection. We also must remember that, even when no examinations are made in spontaneous births, an infection of the puerperium may follow. Kroemer[76] has shown us that such an accident occurs in from 10 to 11 per cent. of such labors. While such an infection is rarely serious after physiologic labors, it may be the explanation of many lethal inflammations following Cesarean section. Truesdale's[77] statement, "Cesarean section should be done before anything else has been tried or not at all," owes its force to these various considerations. In general, the best results in Cesarean section may only be obtained by a rigorous regard to Schauta's rule that the operation should be done when sufficient time has elapsed from the diagnostic examination to preclude contamination from the vagina.

ANALYSIS OF REPORTED CASES.

"It must be acknowledged, however, that all errors of practice do not proceed from ignorance of the art. Some of them may justly be imputed to our entertaining too high an opinion of the art, or of its application in practice, when it is not absolutely required, and when its application is prejudicial, and to too much confidence in our own dexterity"—Denman,[78] 1805. This explains why Lawson Tait[35] hazarded the treatment of placenta prævia by hysterectomy—he was an expert abdominal surgeon, an authority on gynecology, but he had entirely neglected practice in obstetrics. To quote him: "I have all my life avoided in every possible way contact with obstetric practice, and for thirty years have had no personal association with it save in occasional consultations." What was more to be expected than that he should have had a fearful mortality in placenta prævia, a grave surgical disease in a branch of medicine in which he had developed no operative technic, and that he should employ an abdominal operation in an attempt to lower his mortality, which was treble, even quintuple, the death rate of obstetricians of his own

time? I believe Deaver[39] has done himself the greatest injustice, and set an example which should not be followed, when he performed his Cesarean section for placenta prævia, as he was less familiar with version. Surely this is on a par with a practitioner who amputates a leg because he does not know how to treat a fracture.

In the same way, it is not in accord with good obstetrics for Drs. Robert T. Morris[80] and Lanphear[81] (Table 4, Nos. 7 and 18) to perform hysterectomies for miscarriages at the fourth and fifth months, even though there were hemorrhages present from placenta prævia (?). It is to be expected that severe hemorrhages will occur when rapid dilatation, instrumental or manual, is employed in instances of placenta prævia. Abdominal hysterectomies are perhaps reasonably safe procedures, but we can not see their utility when the simple tampon, possibly a metreurysis, will arrest bleeding and secure sufficient dilatation for the exit of a small collapsible fetus and a diminutive placenta.

Fry's[98] case is incompletely reported in a footnote; to the uninitiated his patient appears to have presented features analogous to those of Morris and Lanphear, but we know that Fry's experience with placenta prævia is a wide one; yet we wonder if the continued use of the tampon, later supplemented by the rubber bag, would not have produced the desired result without recourse to the knife, as the hemorrhage was stopped by the tampon, and pains were increasing. Willard's[97] patient (Table 4, No. 25) can not be considered to have had

TABLE IV—CESAREAN SECTION FOR PLACENTA PRÆVIA.

	Operator.	Age.	Para.	Mos. Preg.	Preliminary Treatment.	Type of Operation.	Result Mother.	Result Child.	Contributory Indications—Remarks.	Degree of Plac. Prævia
1	Sligh[82]	32	5	7	Tamponed for day or more; hydrostatic dilators; ruptured membranes.	Conservative.	Died.	Died in 2-3 days.	Cervix hard and short; possibly a carcinoma of cervix (?)	To back and left—Partial.
2	Lodemann[83]	39	5	8	Tampon	Conservative with ovariotomy.	Lived.	Died.	Absolute indication for Cesarean section: osteomalacic pelvis.	Partial.
3	Hypes & Hulbert[84]	..	..	7–9	Data refused	Conservative.	Died.	Died.	Performed as a last resort	
4	Bernays[74]	42	4	8	Tamponed for 12 hours	Conservative.	Lived.	Died in 10 hours.	Os admitted finger; rigid os. but after delivery of child, os found easily dilatable	Complete.
5	Pasquali[85]	..	..	6		Conservative.	Lived.	Not Viable.	Contracted pelvis	
6	Pasquali	..	..	6		Conservative.	Lived.	Not Viable.	Contracted pelvis	
7	Morris[80]	34	..	5	Planned to dilate os rapidly, but feared to do it as consultant saw two deaths from such plan	Porro.	Lived.	Not Viable.	Hysterectomy done for a five month miscarriage; not appropriate case.	High lateral.
8	Bossi[86]	..	..	7–9		Conservative.	Lived.	Died.	Rupture of uterus	
9	Braun[7] (case 47)	37	1	7	Cervix tamponed for 32 hours; colpeurynter for day and half.	Porro.	Lived.	Died in 3 days.	Rigid os; severe atony; other treatments of no avail—last resort; myoma of uterus.	
10	Braun (case 58)	38	4	7–9		Porro.	Lived.	Died in 2 days.	Rigid os; endometritis with chills, high fever; tympani uteri	
11	Mattoli[87]	28	2	7–9	Tampon used—of no avail; did section as he did not have colpeurynter.	Conservative.	Lived.	Dead.	Os admitted finger tip; in absence of dilators did Cesarean section.	Complete.
12	Tait[35]	..	4	Near term.	Ruptured membranes; and many other orthodox methods of treatment used.	Porro.	Lived.	Died in a month.	Os rigid, admitting one finger; did hysterectomy on account of his previous high mortality.	Not complete.
13	Donoghue[75]	40	2	7–9	Tampon and temporized	Conservative.	Lived.	Lived.	Os extremely rigid, admitting two fingers—dollar size.	Complete.
14	McCalla[88]	37	Mult.	7–9	Operated after hemorrhage stopped spontaneously.	Porro.	Lived.	Died in a week.	Os soft, patulous. Operated when hemorrhage stopped spontaneously.	Complete.
15	Covington[89]	29	4	9	No vaginal treatment	Conservative.	Lived.	Lived.	Three bad labors	Complete.
16	Gillette[90]	40	5	Near term.	Tampons; tried to dilate forcibly—severe hemorrhage, so desisted.	Porro.	Died.	Lived.	Os size of ten cent piece; procrastination for month; bed and room looked like a slaughter house.	Central.
17	Hare[91]	37	3	8	Refused treatment for 28 days; tampon.	Conservative.	Died.	Died in 13 days.	Os dilating; lost "quarts of blood."	Partial.
18	Lanphear[81]	34	1	4	Attempts to dilate rapidly produced alarming hemorrhages.	Porro.	Lived.	Not Viable.	Undilated os; profuse stinking discharge; slightest attempts to dilate caused hemorrhages. Merely a neglected miscarriage.	?
19	Webster[92]	13	1	8	Tampon until Cesarean section could be done.	Conservative.	Lived.	Dead.	Justo-minor pelvis; rigid undeveloped soft parts—a child mother.	Lateral.
20	Conroy[93]	35	5	7–9	Tamponed twice in brief peroid	Conservative.	Lived.	Dead.	Os admitted finger tip	Partial.
21	Donoghue[94]	40		7–9	Text implied that there was no preliminary treatment.	Conservative.	Died.	Alive.	Patient died from "stoppage of intestines"—adhesions of omentum to uterine and abnormal wounds.	Complete.
22	Hopkinson[95]	29	3	9	No treatment; hemorrhage appeared while waiting for an elective Cesarean on account of contracted pelvis.	Conservative.	Lived.	Lived.	Contracted pelvis—two difficult craniotomies; an elective Cesarean for contracted pelvis.	Marginal.
23	Omboni[96]	..	..	7–9		Conservative.	Lived.	Living when extracted.		
24	Truesdale[77]	33	7	8	Tampon for four hours; treatment considered. Rapid dilatation; version or Cesarean section.	Conservative.	Lived.	Died in ½ hour.	Os resistant, not rigid, admitting two fingers; gravity recognized after two and one half months of treatment.	Partial (?)
25	Willard[97]	40	1	5	No treatment locally as placenta prævia only discovered in laboratory after hysterectomy done.	Porro.	Lived.	Not Viable.	Woman 18 inches tall—weighed 39 pounds; 54 fractures; marked compression of lungs and heart.	Marginal.
26	Swift[103]	34	1	Near term.	None mentioned although bleeding had continued for 10 hours.	Conservative.	Lived.	Lived.	Cervix partially effaced, os admitted one finger; tampon placed in uterus postpartum.	Partial (?)
27	Deaver[39]	41	6	8	Tampon for 36 hours	Conservative.	Lived.	Lived.	Os half dollar size; Cesarean section done as operator was more familiar with it than version.	Complete.
28	Fry[98]	31	1	5–6	Tamponed twice for hemorrhage; consultants agreed on Cesarean.	Conservative.	Lived.	Not Viable.	Small vagina; no cervical effacement; os closed; strong labor pains.	Complete (?)
29	Zamboni[99]	..	..	..	Data not obtainable.					

placenta prævia, clinically at least, for there was no bleeding; hysterectomy was done for an exceedingly rare condition; a woman 18 inches tall (buttocks to cranial vault), weighing 39 pounds, with such extreme deformity that even at the fifth month her life was despaired of on account of excessive pneumonic compression; on opening the hardened uterus some weeks after the operation a placenta prævia marginata was found. H. R. Storer's case has been included in previous studies; it was omitted in the table as it was a postmortem Cesarean section—twins were delivered, one was dead, the other deeply asphyxiated, but could not be resuscitated.

These facts were furnished by Dr. Storer himself in a personal communication. I would say *en passant* that Dr. Storer was the first to perform a hysterectomy in pregnancy or labor, ten years before Porro used the same procedure, although Blundell[100] had suggested the technic of the Storer-Porro method years before and had successfully carried out the operation on rabbits. In making up my data I have omitted the cases of Morris, Lanphear and Willard for reasons already specified; as the mothers all recovered, the omission raises the maternal mortality in certain deductions, and, as all the fetuses were non-viable, the fetal mortality is lowered proportionally. Hopkinson's report deserves special mention, for the Cesarean section was determined on on account of a contracted pelvis. The patient was permitted to go into labor—while awaiting the knife, bleeding began. If she had not the pelvic deformity, most certainly she would have been treated obstetrically.

For the purpose, therefore, of obtaining data I have used 25 cases—5 women died, 20 per cent. Of the children, 9 were born dead, 36 per cent. Of the 16 babies delivered alive, 7 died within the puerperal period of 2 weeks, making 16 deaths, 64 per cent. We find the direct fetal mortality has been reduced approximately 35 per cent., but, in obtaining this result, the maternal deaths have been raised threefold. The brilliancy of these results is manifested if we make tables, on a basis of 100 cases, of the mortalities according to the new treatment and the orthodox plans.

CESAREAN SECTION.

100 mothers, 20 dead .....20 per cent.
100 babies, 36 dead .....36 per cent.

OBSTETRIC PROCEDURES.

100 mothers, 7 dead ..... 7 per cent.
100 babies, 55 dead .....55 per cent.

Brilliant results, indeed! Cesarean section saves 19 babies, but kills 13 mothers. Further, when we consider the deaths of the 7 weaklings, we find that 12 babies are saved at an expense of 13 mothers. This is but a corroboration of Schroeder's[101] opinion: "We are convinced that those who would aim at the most happy results in the treatment of placenta prævia take the least possible consideration of the child."

Type of the Prævia.—In 7 cases no information is given, or it is so vaguely expressed that it is not justifiable to consider them; 2 died, one from rupture of the uterus, which was the direct indication for the operation, 28.5 per cent. There were 9 complete prævias, with 1 death, 11.1 per cent. maternal mortality. Of the children, 2 died, 22.2 per cent.; 2 died later, one in 10 hours, the other in a week—an ultimate mortality of 44.4 per cent. There were 9 incomplete prævias, with 2 deaths, 22.2 per cent. Of the 9 babies, 3 were born dead, 33.3 per cent.; of the 6 infants born alive, one died in a half-hour, the second in 2-3 days, the third in 13 days, and the fourth in a month, leaving 2 alive—an ultimate mortality of 66.6 per cent.

Period of Pregnancy.—There were 5 cases in the sixth and seventh months of gestation—one died, 20 per cent. None of the children lived. The remainder, 20 operations, were on women with viable children—of these women 4 succumbed, 20 per cent. Operations were performed on 6 women at the eighth month, 5 at the ninth month or near term, and 9 between seven and nine months (exact data not being given). Of the 16 cases with definite statements as to the period of pregnancy, only 5 were at term, 31.2 per cent.; this percentage closely agrees with Read's report that 34 per cent. of pregnancies complicated by a placenta prævia each term.

Type of Operation.—Conservative Cesarean sections were performed 20 times, with a maternal mortality of 25 per cent.; 7 babies lived, 9 (45 per cent.) were born dead, and 4 died within 13 days—an ultimate mortality of 65 per cent. There was not a maternal fatality among the 5 Porro operations. All the children were born alive, but only 1 lived; 1 died on the second day, 1 on the third, 1 on the seventh day, and the last at the end of the month—an ultimate fetal mortality of 80 per cent.

Status of the Operators.—It is of interest to study the professional positions of the various operators, and with special relation to the indications for the sections. Here, perhaps, it is expedient to use all the reports (29) tabulated by me without omissions. The status of the various American operators was obtained from Polk's Directory, and the headings of their respective papers: the European men, by reputation. We find that 9 obstetricians operated on 11 women, 5 surgeons on 6 women, 5 general practitioners and 4 gynecologists had 1 case each; their mortalities were, respectively, 18.1, 16.8, 20.6 and 25 per cent. The branch of medicine to which 3 reporters largely devoted themselves was not ascertainable.

The Indications.—The obstetricians resorted to the operation five times for contracted pelvis, once for rupture of the uterus, twice for rigid os associated with severe atony, tympani uteri and infection, once for a small vagina, once as a last resort (this being the third case mentioned in the literature), and the last for an uncomplicated placenta prævia.

The other operators had 18 cases. There were 6 cases of "rigid os," but in one instance, strangely enough, the os was found to have dilated passively as soon as the child was delivered, and in a second the operator was influenced by his previous high mortality; one patient had had "three bad labors"; miscarriage was the indication twice; a rachitic dwarf with fragilitas ossium required an operation; the surgeon in one case did not know the technic of version; and, finally, 7 did not furnish data showing contributory indications, if there were such. One surgeon (Donoghue) makes the startling announcement that a transverse presentation and a prolapse cord are indications for Cesarean section, and contraindications for an obstetric version: as the child must be turned in order to remove it after a uterine incision has been made, we imagine he would have to perform a procedure which he believes contraindicated. Obstetricians have always held, and will continue to believe, that version is the operation of election in transverse presentations and funic prolapses; that these conditions are present in placenta prævia only more strongly demands the turning.

Finally, these cases tabulated by me show conclusively that Cesarean section generally can not be a primary procedure. The tampon was used on 10 patients.

various expedients were tried on 4, no treatment was mentioned in 5, and the remainder may be considered uncertain as to whether or no attempts were made to deliver per vaginam. In certain instances of rigid os nothing is said as to preliminary treatment, but the mere fact that the os was characterized as rigid strongly implies that attempts to dilate were made.

In conclusion, I have not found one obstetrician whose word may be authoritative who recommends the procedure. Surgeons, general practitioners and gynecologists who presumably rarely see physiologic and pathologic parturient women, advise it. A physician must have a close, intimate, working knowledge of normal labor to appreciate the refinements of pathologic obstetrics. J. W. Williams,[5] E. B. Cragin, P. A. Harris, C. Jewett, E. P. Davis and E. H. Grandin, all obstetricians, condemn the operation for the indication under consideration, reserving it for severe complications. J. C. Webster (personal communication), whose case (No. 19, Table 4) is included in my report, considers it an unscientific procedure—only to be done under great necessity, as a contracted pelvis. Schauta[4] denies its necessity, and all European obstetricians condemn it by refusing to perform Cesarean sections for placenta prævia.

CONCLUSIONS.

1. Cesarean section for placenta prævia lowers the fetal mortality 30 per cent. and raises the maternal death rate nearly threefold. Approximately the life of one mother is taken to save the uncertain existence of one baby.

2. Table 4 shows that the maternal mortality for incomplete prævia is twice that for the complete variety, which is an absurdity, and is due to the few cases reported.

3. Unquestionably some maternal deaths have been suppressed, as in Cesarean sections for pelvic indications.

4. A rigid os is one of the rarest complications of placenta prævia. Undoubtedly most cases of so-called rigid os are simply instances of cervices unprepared for dilatation, or a misconception based on too brusque and rapid attempts to dilate or to extract. A true cicatricial cervix, and rigid cervices of old primiparæ, may offer an indication for Cesarean section in placenta prævia.

5. Pelvic contractions are indications for Cesarean section in the presence of a prævial hemorrhage; the pelvic contraction, not the prævia, is the determining indication. The earlier the interruption of gestation, *caeteris paribus*, the more may pelvic deformity be disregarded.

6. In general, the presence of a placenta prævia will not be recognized before hemorrhages appear.

7. Cesarean section for placenta prævia never will have so low a maternal mortality as when performed for a pelvic indication. Repeated examinations by the physician and his consultants must be made for diagnostic purposes; often a vaginal tampon must be introduced as a temporizing measure, at least until the woman may be transported to a hospital or preparations made at home for the laparotomy. The acute anemia and finally the anatomic conditions postpartum all render the operation a peculiarly dangerous one.

8. Placenta prævia cases appropriate for Cesarean section generally will demand the procedure irrespective of the fetal condition, as the primal motive should be to save the mother.

9. Cesarean section for placenta prævia should only be considered a *dernier ressort*.

10. If an abdominal operation is forced on the obstetrician, he should remove the uterus as a prophylactic against hemorrhage and infection.

11. The profession should await the adjudication of the field for Cesarean section in placenta prævia by obstetric authorities before resorting to the operation.

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THE UNIVERSAL METHOD OF CLINICAL WRITING BY MEANS OF CLINOGRAPHY.

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All the medical world feels the necessity of gathering together the clinical histories of the patients in a uniform method, so as to render them easily understood by all, and thus utilize them for increasing medical knowledge.

The method which I published a year ago, and which now is known and practiced in the principal centers of Italy, in the hospitals and the ambulances, has been proved by me for many years in the largest number of cases which I have observed in private practice and in the hospitals.

I have given the name of "clinography" or "universal method of clinical writing" to my system. It has two objects. The first object is to express the narration of the facts by means of a history in the Latin language, composed of three separate parts:

I. *Notæ Subjecti.*—The qualities of the subject, namely, age, sex, profession, heredity, habits, etc.

II. *Historia Subjecti.*—History of the preceding maladies.

III. *Historia Morbi.*—History of the present disease.

The second object consists in presenting a diagram, that is, a figure representing the parts of the patient, which are examined by means of physical examination, percussion, palpation, etc., and showing the results of these examinations. Therefore, the diagram is made by means of topograms, showing the examined parts, and semiograms, which represent the various symptoms which have been found by the physical examination.

The object of this article is to present some diagrams of disease, and thus to explain a great part of the system.

LEFT-SIDED EXUDATIVE PLEURISY.

The part examined was the posterior surface of the thorax. The two vertical parallels (Fig. 1) represent the vertebral column from the seventh cervical vertebra, represented by the small upper arch, to the limit between the eleventh and twelfth thoracic vertebræ or the lower edge of the lungs. This limit on the right side is indicated by the dotted line (abandoned line) because the lower margin of the right lung is lower by one centimeter, as is shown by the cifra above the dotted line, terminating in two small angles (the line of distance). The letters *a. p.* (axillary line, posterior) indicate that the topogram, and, therefore, the part examined, extends to these lines (it is a rule that the extent of the topogram corresponds exactly to the extent of the part examined).

The posterior surface of the left lung is divided into two parts by a line composed of strokes and dots. This serves to limit all the examined surface, when the limits are not made by topographical lines (artificial limiting line). If, instead of this line, there was a continued line, this would represent, in the figure in question, the cleft between the lobes.

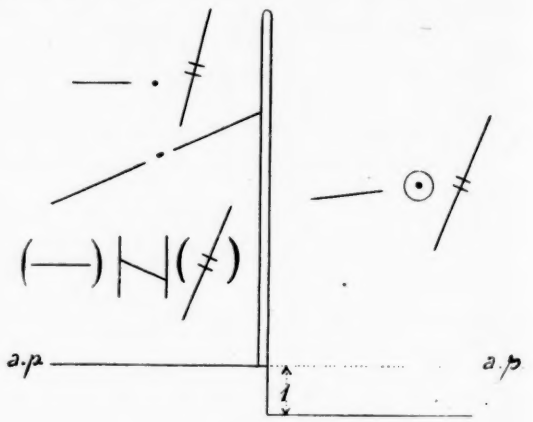

Figure 1.

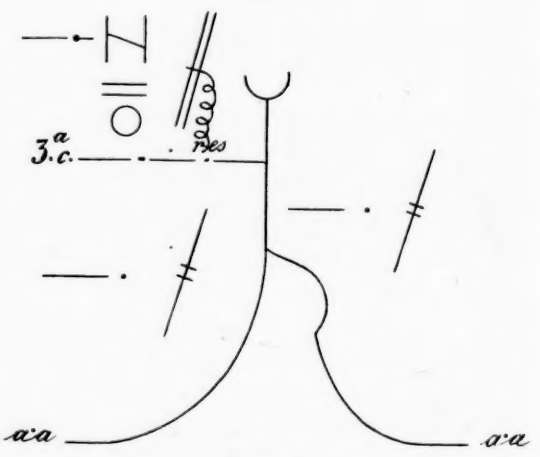

Figure. 2.

The symptoms observed by the physical examination in this case were as follows:

In the upper part of the posterior surface of the left lung there are three signs which indicate, respectively, normal vocal fremitus, normal pulmonary sound by percussion, normal inspiration and expiration, inspiration being represented by the lower part of the line, expiration by the upper. In the lower part of this same surface there are two signs already explained above; but they are in parenthesis. That is to say, the two symptoms are absent, namely, vocal fremitus and auscultated respiration are not to be found. On the contrary, in the place of the pulmonary sound there is a sign composed of two little vertical lines, with an oblique line between them, signifying a dull sound. In order to aid the memory, the oblique line represents the suppression of air

from the part enclosed by the two vertical lines—the physical condition in which occurs the dull percussion sound.

In the posterior surface of the right lung there are the semiograms, already explained, but the pulmonary percussion sound is closed within a circle, which represents the tympanitic percussion sound, and this signifies that in this region the pulmonary sound has a tendency to the tympanitic sound. The small circle reminds one of an air-ball, that is, the physical condition in which occurs the tympanitic percussion sound.

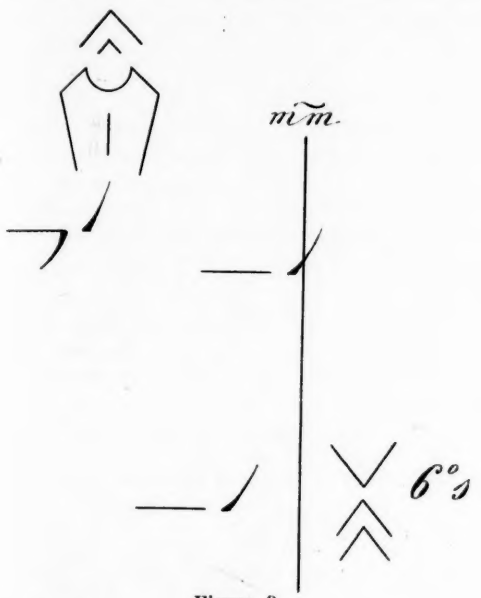

Figure 3.

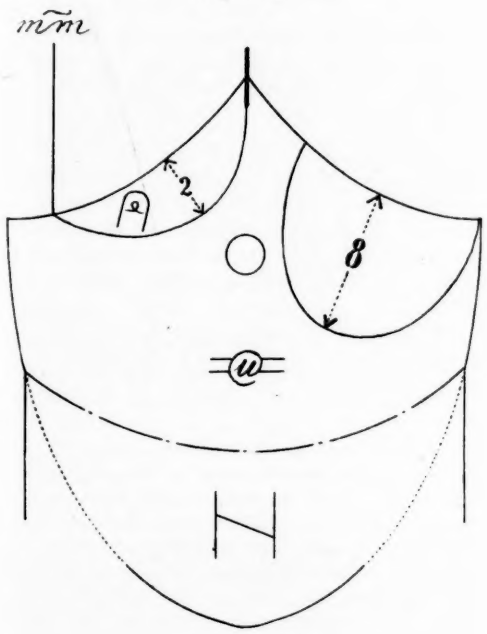

Figure 4.

CAVERNOUS TUBERCULOSIS OF THE APEX OF THE RIGHT LUNG.

The topogram of Figure 2 is composed of a small arch (jugulum or upper margin of the sternum), from which departs a figure like an *h*, which represents the anterior margins of the right and left lungs. The letters *a*. *a*. form the limits of the topogram, and indicate that the examination of the patient was made only on the anterior surface of the thorax (*a*. *a*. signifies anterior axillary line).

In the surface of the left lung, and in the lower part of the right, there are three semiograms which we already know (Fig. 1). The upper part of the anterior surface of the right lung is separated from the lower by means of an artificial limiting line, which corresponds to the third rib. In this part the vocal fremitus carries a sign formed of a dot from which, on the right, goes off a small line. This sign indicates the great intensity of the fremitus, while a dot with a small line on the left indicates weakness, a dot with a small line above or below indicates, respectively, the certainty or uncertainty of a phenomenon. By these four representations it is easy to aid the memory.

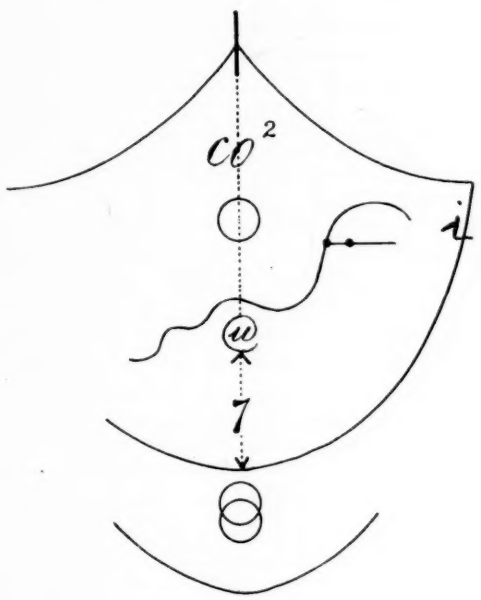

Figure 5.

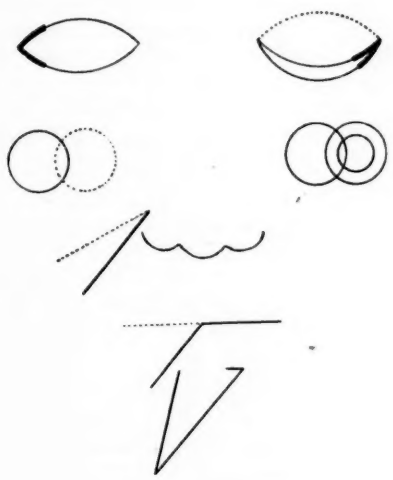

Figure 6.

The semiograms of the dull and tympanitic percussion sound are separated by two small horizontal lines, and this indicates that the gentle percussion produces the dull sound, and the strong produces the tympanitic sound.

The semiogram of the auscultated respiration (also Fig. 1) is here doubled, to indicate a soft bronchial respiration in both the acts.

In the first of these acts there is a figure representing a series of small circles. They remind one of bubbles of the mucous râles, and, therefore, one must read that in the inspiration there were some mucous râles (small sized). Finally, "res" indicates that these râles are resonant.

DILATATION OF THE ASCENDING AORTA FROM ATHEROMA, WITH HYPERTROPHY OF THE HEART.

The small jugular circle (also Fig. 2) reminds one that the examination has been made on the anterior surface of the chest; but here (Fig. 3) is represented the entire manubrium. On the left one sees the mammillary line (*mm*). On the manubrium is the semiogram of the reduced percussion sound. Above it is a sign which represents a strong pulsating area. (If the pulsation were of middle strength, instead of the double angle there would be a single one.)

The semiogram of a *V* indicates the apex of the heart, and this diagram signifies that this apex pulsates strongly and outside of the mammillary line, and in the sixth intercostal space.

In the three points of auscultation of the heart, there are two signs which represent the two normal sounds of the heart, separated by the short pause. The space which reunites the upper extremity of the second sound with the beginning of the first represents the long pause. This space completes an imaginary circle, which represents the cardiac revolution, with the well-known succession of the first sound of the heart, the short pause, the second sound, and finally the long pause. In our diagram, in place of the pulmonary valve auscultation, and also in the apex of the heart, the two sounds were found normal, and in the place of the aortic valve auscultation the first and second sounds are replaced by a murmur, and, therefore, the signs of the sounds are terminated by a hook.

COMMON HEPATIC CIRRHOSIS.

The topogram (Fig. 4) is formed by two arches, which remind one of the lower outline of the chest, and between these there is a small vertical line which reminds one of the apex of the sternum. The remaining part of the topogram is formed by an oval which, together with the two arches, forms the topogram of the anterior face of the abdomen. In the center of this there is an encircled *u*, which indicates the umbilicus. The two small horizontal lines on both sides of the umbilicus signify that it has lost its concavity and has become flat. To indicate that the sides of the abdomen are enlarged (ascites), a part of the abdominal ovoid is dotted; in place of this abandoned line (Fig. 1) we have near it a continued vertical line.

By the palpation is found a tumor of the spleen whose maximum measure is 8 cm. The liver is represented by a small zone, between the mammillary and median lines. The figure of a finger on the liver indicates that it is resistant to palpation, and the figure like an *e* on this finger indicates nodular resistance. The other semiograms are already explained above.

HYPERTROPHY AND DILATATION OF THE STOMACH WITH STENOSIS OF THE PYLORUS.

The topogram of Diagram 5 is the same as the preceding one. By means of inflation with carbonic acid (CO_2) we have very strong peristaltic movements, and the figure of the stomach is visible (*i*) and palpable, with an outline, which crosses the median line at 7 cm. below the umbilicus. The tympanitic sound of the surface is different from that of the inferior part because this latter is higher.

PARALYSIS OF RIGHT FACIAL NERVE, SUPERIOR AND INFERIOR BRANCHES, WITH PARALYSIS OF HYPOGLOSSAL NERVE, ETC.

Diagram 6 represents many different nervous symptoms, from the examination of the face. On the top there are the two apertures of the eyelids. The outlines of these apertures correspond exactly to the margins of the eyelids. To the right the exterior angle of this aperture shows a thicker line to signify that it is impossible to close it (a pose or forced position). On the left side the forced position is put on a closed eye. This closed eye is indicated by the abandoned line (lagophthalmus, ptosis). A similar abandoned line is used to express that the line of the cheek and the half of the mouth are lowered on the right side. The tongue is drawn under the mouth by means of an angle, whose left side is longer and curved, to indicate that there is a deviation of this organ toward the right side. Finally, there exists in the diagram two crossed circles, both on the right and left. They indicate the reflexed movement of the iris, by light and by adaptation to distance. In the right eye the first is normal, the second absent; in the left eye the first is normal, the second is weak (double-lined circle).

TUBERCULAR MENINGITIS.

REPORT OF THREE CASES.*

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SAN FRANCISCO, CAL.

To the physician who sees much of disease in children, tubercular meningitis is a specter that forever haunts the scene. Sometimes we fail to observe it as it lurks in the shadow, not yet ready to declare itself openly; more often, perhaps, we imagine we see it hovering over our patient, when subsequent developments prove we were deluded. How to recognize this evil spirit, so that we may know from the beginning with what we are contending, is a problem worthy of our utmost effort; and it is to this that I wish to direct your attention. During 1904 I saw three cases of tubercular meningitis, an account of which will serve to emphasize the difficulties in the way of making a diagnosis and the steps to be taken to overcome them.

CASE 1.—A boy, aged 3, always previously well, was taken by his parents to Los Angeles early in January, 1904.

History.—While there he was closely associated with his father's father, who had a chronic cough and had been told he had laryngeal tuberculosis. About February 1 the child began to complain of headache, putting his hand over the forehead when asked to locate the pain. At the same time he became listless and lost his appetite. On February 8, because of the child's indisposition, the parents brought him back to San Francisco. On the journey home he began to vomit and vomited persistently for nearly a week afterward. Then for a week there was no vomiting, then once more a recurrence, and at intervals subsequently during February the vomiting continued. During the whole time the headache persisted, always in the forehead. The bowels were continually and obstinately constipated. The child gradually grew restless and weak from loss of food. He had a little fever all the while, as noted by the mother, who possessed a clinical thermometer, and he lost a good deal in weight during his illness. On February 22 it

* Read before the San Francisco County Medical Society, 1905.

was noticed, for the first time, that he was drowsy and could not be interested in any way. I first saw him on February 23, when the foregoing history was elicited.

Examination.—The boy was still very drowsy and slept continually if left alone, but could be aroused. His pulse was from 70 to 80 and its rhythm slightly irregular. His temperature by rectum was 100.4 F. His abdomen was much depressed. The pupils were moderately dilated and reacted sluggishly to light. As soon as my examination was completed the child immediately dropped asleep again. On February 24 and 25 the condition was practically unchanged, except that the stupor was even deeper and the pulse even more slow and irregular. The temperature remained below 101 F.

Subsequent History.—On February 25, on my advice, the child was taken to Lane Hospital, and there he stayed during the remainder of his illness. On February 26 a lumbar puncture was made and about 12 c.c. of clear fluid were withdrawn from the spinal canal; this was submitted to Dr. William Ophüls for examination, and his report showed that the sediment contained a moderate number of leucocytes, of which 10 per cent. were polymorphonuclears, 81 per cent. were lymphocytes and 9 per cent. large mononuclears; no tubercle bacilli were found in the sediment and no other bacteria. The blood count showed a leucocytosis of 12,000.

From this time on the clinical history was that of irregular fever and persistent stupor, with gradually progressive increase in the pulse rate and decrease in strength until the end. Peculiar symptoms noted from time to time, characteristic of this disease, were the "tache cerebrale"; the bright flush on one cheek, while the rest of the face was pale; the grinding of the teeth; the irregular respiration rate, now and then approaching the Cheyne-Stokes type; the twitching of one or of the other extremity; the rigidity of joints, now in upper, now in lower limbs; the frequent vomiting, regardless of food taken; the retraction of the head and stiffness of the neck; the recurring strabismus, now divergent, now convergent; the irregular pupils, at one visit both widely dilated, at another unequal in size; and, finally, toward the end, general convulsions lasting for several minutes and repeating themselves at longer or shorter intervals. The child died on March 9 after an illness of approximately five weeks. No autopsy was permitted.

CASE 2.—On the evening of Sept. 22, 1904, a negro boy was found by the police lying unconscious on one of the streets of San Francisco.

History.—He was taken at once to the Receiving Hospital. There papers were found in his pockets that established his identity, and he was sent to the home of his parents. He remained there under the care of a surgeon until September 23; but, as his condition did not improve, he was then sent to Lane Hospital. At that hospital he was first referred to the care of the surgical staff; but, as no injury could be discovered by them to account for his coma, he finally came into the hands of the medical service. I saw him first on September 26.

The history of his illness was a very meager one. His parents could only relate that the boy was 18 years old, had run away from his home a year before to go to sea, and that they had never seen him since then until they were called to the Receiving Hospital to find him lying unconscious there.

Examination.—He was in a deep coma and could not be roused. His head was retracted and could not be brought forward, because of the rigidity of the muscles at the back of the neck. The pupils were moderately dilated and did not react to light. There was a facial paralysis on the right side so that the right eye was widely open and staring, while the left side of the face was much distorted. There was continual twitching, now of the hands, now of the feet, and at times a nervous tremor of the entire body sufficient to shake the bed. He seemed very restless and uneasy, moaning and groaning much of the time. Physical examination revealed no disease of heart, lungs or abdominal viscera, but the abdominal walls were much depressed. There was no swelling of any joint, but all the limbs were held rigidly and could be bent only by force. There was a typical Kernig sign in both lower limbs. Fever had been continuous from the date of his admission, ranging from 100 to 102 F. The pulse was regular but rapid, averaging from 100 to 110. The white blood count showed a leucocytosis of 10,500 on September 24 and of 11,200 on September 26. Lumbar puncture, made several times, revealed always a clear fluid, which flowed freely, as much as 35 c.c. being drawn on one occasion. This fluid, examined by Dr. Ophüls, showed no bacteria in coverslips, no visible growth in beef tea or in glycerin agar-agar inoculated with several c.c. and no bacteria in coverslips from the cultures. The sediment from the fluid showed a few lymphocytes, a few polymorphonuclear leucocytes and a moderate number of large bean-shaped diplococci, but none of them intracellular and all staining by the Gram method. The urine was continually voided involuntarily, and a specimen obtained by catheter showed a light cloud of albumin and an abundance of pus corpuscles, but no casts. Examination of the eye backgrounds by Dr. Edward Sewall showed normal discs, except that the veins appeared engorged and tortuous.

Subsequent History.—From the time of his admission the patient was unable to swallow, and, therefore, had to be fed by rectum and ultimately by means of a catheter passed through the nose. He never regained consciousness and the coma grew deeper and deeper. His pulse gradually grew more rapid and weak and his fever continued to rise higher each day until, finally, at the last examination before his death, the pulse rate was 192 and the temperature 107.4 F. He died at midnight on September 28, five days after entering the hospital and six days after he was found on the street.

Autopsy.—An autopsy was made on September 29 by Dr. William Ophüls. I quote from his report as far as it concerns the brain: "The skull cap is easily detached from the dura mater. A little fluid blood and some soft clots are found in the longitudinal sinus. The dura shows diffuse dark red and purple discoloration. It is very tense. The inner surface shows marked redness. There is very marked hyperemia of the pia mater, the surface of which is dry. In some of the sulci along the convexity and in those near the Sylvian fissure there is a moderate collection of slightly yellowish opaque exudate. This exudate is all in the subarachnoid space. In both Sylvian fissures, in the pia mater, back of the optic nerves, and in front of the pons and medulla there is a purulent infiltration of the membrane. A little clear fluid escapes from the spinal canal. The purulent infiltration extends a little way along the olfactory bulb. The right temporal lobe is very soft; both lateral ventricles are very considerably dilated and filled with clear serous fluid. There is also moderate dilatation of the third and fourth ventricles. The brain substance at the base is soft, almost liquid. There are no signs of tubercles around the area of purulent infiltration, but there are some just visible translucent nodules in the ependyma of the lateral ventricles."

Besides these conditions found in the brain, the autopsy revealed in the upper lobe of the left lung a cavity about the size of an almond filled with broken-down cheesy material; there were a few tubercles in the surrounding area. In the peribronchial glands on the right side were found a few old tubercles, and in one on the left side there was a large caseous area; but there was no tuberculosis in the right lung. One of the deep cervical glands on the left side, about the size of an almond, was almost completely caseated; and there was extensive tuberculosis of one of the lymph glands at the arch of the aorta. Finally, in a Peyer's patch in the upper ileum and in one just in front of the ileocecal valve there was found a slight swelling in the center, with an irregular superficial defect; in the neighborhood of the first lesion there were a few just visible tubercles in the mucous membrane.

The anatomic diagnosis was as follows: "Tubercular meningitis; hydrocephalus internus; two recent small tubercular ulcers in the intestine; tubercular cavity in the anterior part of the upper lobe of the left lung; old tuberculosis of the deep cervical glands on the left side, of the lymph glands of the arch of the aorta and of the left peribronchial lymph glands."

CASE 3.—A boy, aged 3, an only child, was brought from the country to my care at Lane Hospital on Nov. 2, 1904.

History.—In June previous the child fell downstairs, eighteen steps, but apparently sustained no serious injury and no bruises could be found about the body. The latter part of July he awoke from his daily nap, complaining of a cramp in his left leg. This pain and cramp persisted for several hours in spite of treatment, then passed off entirely and left no

lameness; so that the child in the afternoon could run about the house without difficulty. In the evening, on going to bed, complaint was again made of some lameness. The next morning, on waking, the child again had cramp in the left leg and could not put the foot to the floor. For four weeks following this the boy could not walk. He was brought to Oakland and kept there during that time under treatment in a sanitarium. The limb continued painful and the child lost in weight and in color. Gradually, however, he again improved in appetite and weight and his limb grew better, so that finally he could walk once more. By the end of September he was able to return to his home in the country and to be about constantly on his feet. Early in October the limb again began to give trouble and ever since had made him walk lamely, sparing his left leg. For months past it had also been observed that the boy placed his hands on his knees to support himself in rising from a chair or in sitting down and that he held himself stiffly in movements involving any bending of the spine. On October 30 the child began to complain, for the first time, of pain in the head. Since then the pain had been persistent, and he did not want the head moved because it hurt him. He had been observed for weeks past to have a slight elevation of temperature every afternoon, running as high as 100 or 100.5 F. by rectum. Since the onset of the pain in the head the temperature had gone higher—as high as 102 F. at night. The night of October 30 the child vomited, again on the 31st and again on November 2, without apparent reason, for no food had been given meanwhile except a little broth and milk. He had lost his appetite completely and it was difficult to make him take any food since the onset of the pain in the head. He had also become drowsy during the few days since the headache began, and slept most of the time if undisturbed.

Examination.—The little patient was found to be pale and poorly nourished. His pupils were dilated, but equal and responded to light. The head was held stiffly, and the child cried if it was forcibly moved forward. No abnormality was found about the lower limbs. They were equal in size and development, and there was no limitation of motion at knee or hip in either limb. In the lumbar region of the spine there was found a decided swelling, extending more to the left than to the right of the median line and involving three spinous processes. There was no redness over this swelling, but there appeared to be considerable tenderness. The white blood count showed 13,800 white corpuscles. The urine contained no albumin or casts. For the sake of exclusion the blood was examined for a Widal reaction, but there was no reaction in one hour with a dilution of 1 to 10. In this case, the parents objected to lumbar puncture and, therefore, it was not made.

Subsequent History.—The subsequent course of this case was very similar to that of the first one reported. Little by little the child grew more drowsy and finally sank into a coma from which he never roused. His pulse for several days was slow, averaging 92 in rate, and was at times intermittent and irregular. Gradually it grew more rapid and weak as the case progressed and as death approached until it became 140 to 170 and very thready. The temperature was irregular throughout, ranging most of the time between 100 and 102 F., but several mornings touching the normal line, even as late as the day before he died. These remissions in temperature, however, were never accompanied by any improvement in the mental condition. The child died on November 15, about two weeks after the onset of meningeal symptoms. Four days before he died the parents took him back to their home in the country, so that the last stage of the illness was not under my observation; but no general convulsions occurred and, except for spells of tossing about of the limbs and frequent grinding of the teeth, there was no interruption of the earlier stage of the stupor. No autopsy was obtained.

The phase of this subject to which I wish to call particular attention is the diagnosis. The disease is a frequent one in infants and in young children; and occurring as it does at an age when an accurate statement of symptoms can never be obtained, it always offers an interesting problem for solution. It is common enough to attribute the first manifestations of the disease to some other condition; and one other case which I have not herewith reported, but which I saw in the early part of last year, will call attention to the opportunities for error in the early detection of the real trouble. On Jan. 14, 1904, I attended an infant, aged 19 months, who appeared to have a disturbance of stomach and intestines. He had recently been vomiting his food and had had some diarrhea following a history of improper feeding. I gave the usual fractional doses of calomel, regulated the diet, and in a day or two the child seemed perfectly well again. The next time I saw him, on February 22, it was in consultation with Dr. E. G. Frisbie, who had been called a short time after my attendance because the baby did not continue to improve. At the time of this consultation the child was in a condition of coma, with pupils widely dilated and not reacting to light, with the pulse irregular in rhythm, with twitching and contraction of the muscles, with marked retraction of the head and with persistent vomiting and high fever. Death occurred on February 24. This case illustrates how easy it is at the outset of tubercular meningitis to suppose the condition one of acute indigestion. The lesson to be drawn from this experience and from the cases herewith reported is that one should always be suspicious of tubercular meningitis in a child in every case of illness that is associated with disturbance of digestion, a slight degree of fever and peevishness and irritability of temper. With older children, able to talk, the complaint of headache is a valuable early guide as to the site of the mischief, but with infants the diagnosis can not be made with certainty until some days have elapsed, because of the vagueness of the symptoms of onset. If one bears in mind this very fact of the indefiniteness of early symptoms and the possibility that they mean serious disease, he will not be so likely to make a mistake.

More definite symptoms are those of disturbance of the mental condition. In the very beginning these symptoms are due to irritation of the brain, and consequently fretfulness, peevishness, restlessness and insomnia are the phenomena produced; but such symptoms are common to so many diseases in infancy and childhood that they have no definite diagnostic meaning.

Last April, in Vallejo, with Dr. J. J. Hogan, I saw a child that for two or three days previously had been in a state of violent excitement, screaming and crying and tossing about without apparent cause. There was no fever and no vomiting and at the time no explanation for the condition could be found. Gradually, however, this condition of frenzy changed to one of drowsiness and coma and the child's later condition was typical of tubercular meningitis. It is this condition of quietness, drowsiness, loss of interest in surroundings and gradually increasing stupor that rightly gives rise to apprehension of serious cerebral disease; especially if the development of this change has been a slow one, and if it is associated with a low grade of fever. Perhaps the mistake most often made about this mental condition is to assume that it inevitably means meningitis. I have repeatedly seen infants supposed to have meningeal disease, when the stupor was due purely to intestinal toxemia or to some acute infection with high fever, such as lobar pneumonia. In such cases the onset of the cerebral symptoms has usually been rapid, and there is much higher fever than tubercular meningitis would present at so early a stage in its clinical history.

Still more definite is the evidence of irritation or of intracranial pressure, as manifested in parts outside

the brain; such as the unequal pupils, the widely dilated pupils, or the pupils that refuse to respond to light; also the various local paralyses about the muscles of the eye, as in strabismus, or in the muscles of one side of the face or in one limb; or such as the irregular pulse and respiration. All these manifestations, however, may be variable and transient; present one day and absent the next. Indeed, the mental condition itself is a variable one from day to day, and it is not rare to find a child at one visit in profound stupor, incapable of being roused, while at the next visit the child will respond when spoken to and recognize its parents and those about its bedside. This variability in the mental condition is one of the saddest features of tubercular meningitis, for it raises false hopes in those who do not understand its lack of significance and who wrongly interpret it to mean improvement.

When we come to the evidence to be obtained by direct physical examination of the patient with meningitis, and to the various chemical and microscopic tests that give us aid, we find that there are a number of points that help us greatly in the diagnosis. First of all comes retraction of the head, and at times this is so marked that no one, not even the parents, can overlook it; often the head is drawn backward until the occiput nearly touches the back. More frequently, however, the condition found is simply one of stiffness and rigidity of the muscles at the back of the neck, so that the child will not permit the head to be carried forward with the chin against the sternum. This latter condition may be discovered only by examination and may not produce any visible alteration in the usual position of the head on the pillow. The value of this sign when it is discovered is great, and I know of no conditions that simulate it except a rheumatic torticollis, which is more likely to be lateral than anteroposterior, and disease of the cervical vertebræ which is not usually associated with the other symptoms and signs of tubercular meningitis. The Kernig sign, so valuable in adults, is, in my experience, more difficult to elicit in young children, because they can not be persuaded to eliminate the fear of being hurt by manipulation and, therefore, hold the limbs rigidly even though no meningitis is present as a cause. The white blood count gives valuable evidence both as to the presence of a meningitis and as to the character of the meningitis. The leucocytosis found is usually that of other tubercular disease; namely, one of moderate degree. In the cases reported the average count was 12,000, and such a count means, in the first place, that there is some inflammatory process present in the body and, in the second place, that this process is not acute and virulent. The absence of any leucocytosis would speak against the presence of meningitis, while the presence of a high leucocytosis would speak for some other form than the tubercular.

Lumbar puncture gives us evidence that is negative rather than positive, but it is a diagnostic aid we would not like to do without. The fluid obtained is usually clear and not turbid; tubercle bacilli are usually not found either in coverslips or in cultures; and the sediment obtained by centrifugalizing is usually very small in amount and contains few cells. Attention has recently been called to the fact that the cells found in the spinal fluid are mainly lymphocytes in tubercular meningitis, whereas the polymorphonuclear cells predominate in other types of the disease, such as the epidemic or the septic. It is, therefore, the discovery of a clear fluid containing no micro-organisms and but few cellular elements that is characteristic of tubercular meningitis. Lumbar puncture is by this time recognized to be a procedure practically harmless if properly performed, and it is so easily done that it should never be omitted in the effort to obtain data for diagnosis, provided the consent of parents can be obtained.

The second case described, although it did not occur in a child, calls attention to several points that have an immediate bearing on diagnosis. First, the very fact that this case occurred in an adult is of interest, because we are too apt to think of tubercular meningitis as a disease only of children. It is certainly more common in infancy and in childhood, but it can never be ruled out as a possibility in diagnosis because the patient has passed a given age. Second, a case seen for the first time in its later stages may appear to have had a sudden onset and, therefore, to belong to some other type of meningitis than the tubercular. Even when the history of illness is known from the beginning, as it was not in this case, there may still be an apparently sudden onset, because the trivial symptoms preceding the grave ones were unnoticed. One must not, therefore, be guided too much by a history of sudden onset in determining the form of meningitis present. Third, even though the onset be apparently sudden and the symptoms at the time of the first observation are violent and severe, it still remains possible by means of the blood count and lumbar puncture to differentiate tubercular from the other types of meningitis. In this particular case of the young negro referred to, the history and the physical condition at the time he was first seen indicated that he was suffering from the epidemic form of cerebrospinal meningitis. The low blood count, however, was against the latter diagnosis; the fluid obtained by lumbar puncture was at all times characteristic of tubercular meningitis; and at no time were the organisms found that are characteristic of the epidemic type. Fourth, this case, the only one in which an autopsy was obtained, demonstrates that tubercular meningitis is rarely or never a primary disease. There is always a tubercular focus somewhere else in the body to which meningitis is secondary. This focus can not always be found, even if careful search is made for it; but, on the other hand, such search will many times lead to the discovery of tubercular disease elsewhere, either in lungs, abdominal organs or bones, that existed for some time before the symptoms of meningitis presented themselves. In the third case referred to, for instance, there was a definite history of tubercular disease of the vertebræ for some months before the meningitis occurred; and on physical examination there were definite signs of such disease present to account for the meningeal complication. In children it is frequently an infection of the bronchial glands that precedes the disease of the meninges, and the only evidence that can be obtained is a history of persistent cough for some weeks before; though physical examination of the lungs may give very indefinite signs of pulmonary disease. Fifth, if one has any doubt, during the course of a case, whether or not the meningitis is of the tubercular type, the outcome decides the question. A case considered during its clinical course to be tubercular meningitis may be looked on as an error in diagnosis if recovery takes place; for this disease must be set down as uniformly fatal, and we know of no remedies that will stop its progress. Other forms of meningitis may end in recovery, but the tubercular form practically never does. It is true that a few cases have been reported in which recovery occurred

even when the diagnosis seemed positively determined; but they are so few they do not alter the general statement.

In conclusion, the problem presented by these cases is always twofold: First, is meningitis present, and, second, is it tubercular meningitis? In deciding the first point, one must consider the various symptoms and signs already described in the cases presented, and which are more or less common to all types of meningitis. Other conditions occurring in infants and in young children that give rise to similar symptoms are the following: First, acute intoxications, usually intestinal in origin; second, acute infections, such as lobar pneumonia, in which the primary condition is masked temporarily and the meningeal symptoms predominate; third, typhoid fever; and, fourth, uremia, which can easily be eliminated if the urine is examined.

In deciding the second point, one must bear in mind the possible varieties of meningitis and consider the evidence with reference to each. They are as follows: First, the tubercular variety, usually secondary to a focus of tuberculosis elsewhere in the body, with the characteristic clinical history, physical signs and blood count described in the cases herewith presented and with a sterile fluid obtained by lumbar puncture; second, the septic variety, which occurs most often secondary to abscess in the middle ear or to fracture of the skull, and which has a sudden onset, a high leucocytosis and a fluid obtained by lumbar puncture that is more or less turbid, containing the organisms of sepsis in coverslips and in cultures and excess of polymorphonuclear cells; third, the epidemic form, which usually has a sudden onset, a high leucocytosis, a turbid fluid obtained by lumbar puncture, containing the meningococcus and an excess of polymorphonuclear cells; fourth, the pneumonic form, which usually occurs as a complication of lobar pneumonia, is sudden in onset, has a high leucocytosis, and shows the pneumococcus in the fluid obtained by the lumbar puncture; fifth, the posterior basic meningitis, described by Still, of which the characteristic clinical feature is the excessive retraction of the head, which is chronic in its course, which usually presents itself during an epidemic of the cerebrospinal form of the disease, and in which the fluid obtained by lumbar puncture shows either the meningococcus or else no organism at all. In these cases recovery sometimes takes place after a clinical course of weeks or months.

PHYSICIANS IN FICTION.

PHYSICIANS AS SEEN BY HENRY FIELDING.

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We deem it appropriate to begin the study of the types of physicians in fiction with an author who, according to Sir Walter Scott, was "the father of the English novel" and whose "Tom Jones" is considered by the foremost critics to be the greatest novel that was ever written. Although many of the libraries here and abroad have placed Fielding's works in *the index expurgatorium*, yet the observation made by Burrow[1] some sixty years ago holds good even in our generation. He calls Fielding "the most singular genius their island produced, whose works it had been the fashion to abuse in public and to read in private."

In "Joseph Andrews," "Tom Jones" and "Amelia" no physician appears as a prominent character, but a number of medical men, surgeons and apothecaries make their appearance, and, with the exception of two, they offer excellent material for the formation of an opinion of the prevailing tendencies, foibles, shortcomings and petty jealousies among the physicians of the Eighteenth Century. We say "prevailing tendencies" advisedly. For, notwithstanding the fact that that century had produced such eminent physicians as Chesselden, Pitcairn, Arbuthnot, Cullen, Douglas, the Monroes, father and son, the Hunters and others. their influence did not manifest itself universally until the beginning of the Nineteenth Century. The select body of physicians consisted of men of culture, whatever we may think of their therapeutic attainments, but the general run of surgeons and apothecaries of that period, we must admit, possessed but little general education and scant scientific equipment. In the hands of Fielding the latter become fit subjects for ridicule.

In "Tom Jones" we find one of those unfortunates whom we meet even in our day, "a gentleman who had the misfortune of losing the advantage of great talents by the obstinacy of a father who would breed him to a profession which he disliked. In obedience to this obstinacy the doctor (Bilfil) has in his youth been obliged to study physic, or, rather, to say he studied it; for, in reality, books of that kind were almost the only ones with which he was unacquainted, and, unfortunately for him, the doctor was master of almost any other science but that by which he was to get his bread; the consequence of which was that at the age of 40 he had no bread to eat."

The sum total of the knowledge of the causation of disease is thus wittily described: Captain Bilfil died suddenly, and two doctors were summoned. "Having felt his pulse, to wit, Dr. Y. his right and Dr. Z. his left, both agreed that he was absolutely dead; but as to his distemper or cause of his death they differed; Dr. Y. holding that he died from apoplexy and Dr. Z. from epilepsy. To say the truth, every physician almost has his private disease, to which he ascribes the victories obtained over human nature. The gout, the rheumatism, the gravel and the consumption have all their several patrons in the faculty; and none more than the nervous fever, or the fever of the spirits."

That the expectant treatment was an unknown quantity in those days, and was considered a subject worthy of ridicule, is well illustrated by the following grave discourse:

"There is nothing more unjust than the vulgar opinion by which physicians are misrepresented as friends to death. On the contrary, I believe if the number of those who recover by physic could be opposed to that of the martyrs, the former would rather exceed the latter. Nay, some are so cautious on this head that to avoid a possibility of killing a patient they abstain from all methods of curing and prescribe nothing but what can neither do good nor harm. I heard some of those who with great gravity deliver it as a maxim 'that nature should be left to do her own work,' while the physician stands by, as it were, to clap her on her back and encourage her when she does well."

The boastful, garrulous and voluble surgeon, as well as the medical vocabulary of that day, is masterly depicted thus: "Jones fractures his arm while saving the life of Sophia. The surgeon bleeds Sophia first and then proceeds to examine Joseph's arm, and, holding forth his broken arm, he began a very learned and very long lecture, in which simple and double fractures were most accurately described; and the several ways in which Jones might have broken his arm were discussed, with proper annotations, showing how many of these would have been better and how many worse than the present one."

On another occasion Jones receives a blow on the head. The surgeon, "having viewed the wound, having shaken his head and blamed everything that was done, ordered the patient instantly to bed." When asked a little later how his patient did, he answered: "Better, I believe, than he would have been by this time if I had not been called; and even as it is, perhaps, it would have been lucky if I could have been called sooner. . . . I remember to have been called to a patient who received a violent contusion in his tibia, by which the exterior cutis was lacerated so that there was a profuse sanguineous discharge and the interior membranes were so

1. Spain and the Bible. 1848.

divellicated that the os or bone very plainly appeared through the aperture of the vulnus of the wound. Some febrile symptoms intervening at the same time (for the pulse was exuberant and indicated much phlebotomy), I apprehended immediate mortification." When pressed with the question whether Jones is in danger: "In danger, ay surely," cries the doctor; "who is there among us, who in the most perfect health, can be said not to be in danger? All I can say at present is that it is well that I was called as I was, and it would have been better if I had been called sooner, . . ."

At the second visit the landlady informs the surgeon that Jones suffers from an "eating fever, for he has devoured two swinging buttered toasts this morning for his breakfast." The surgeon finds no difficulty in explaining away this physiologic paradox:

"Very likely; I have known people eat in a fever, and it is very easily accounted for; because the acidity occasioned by the febrile matter may stimulate the nerves of the diaphragm and thereby occasion a craving which will not be easily distinguished from a natural appetite; but the aliment will not be concreted nor assimilated into chyle, and so will corrode the vascular orifices and thus will aggravate the febrific symptoms."

Another illustration of clear pathology and distinct nomenclature is to be found in "Joseph Andrews." Joseph was beaten unmercifully. The surgeon pronounces: "His case is that of a dead man. The contusion on his head had perforated the internal membranes of the occiput and divellicated that small, minute and invisible nerve which coheres the pericranium and thus was attended with a fever, at first symptomatic, and he is at length grown delirious, as the vulgar express it."

The barbers, who during many centuries performed the functions of surgeons, have even as late as the Eighteenth Century competed with the surgeons for supremacy. Fielding introduces in "Tom Jones" a barber by the name of Benjamin, "a fellow of great oddity and humor," who undertakes to treat Jones.

"'So, tonsor,' said Jones, 'I find you have more trades than one; how came you not to inform me of this last night?'

"'A surgeon,' answered Benjamin, with great gravity, 'is a profession, not a trade. The reason why I did not acquaint you last night that I professed this art was that I then concluded you were under the treatment of another physician, and I never love to interfere with my brethren in the business.'"

In "Amelia" we find a description of how a physician and an apothecary pull together—a coalition entered into even in our day. A physician is called to see Amelia's sick child.

"He began to inquire of the apothecary what he had already done for the patient; at which as soon as informed he greatly approved. The doctor then sat down, called for pen and ink, filled a whole side of a sheet of paper with physic, then took a guinea and took his leave, the apothecary waiting on him downstairs as he attended him up."

The hostility with which physicians looked on innovations is described in the following episode: The father of a sick child asks the physician for a consultation with an eminent physician, Dr. Thompson."

"'Excuse me, sir,' cried the doctor hastily, 'I shall not meet him. Shall I meet a man who pretends to know more than the whole faculty and would overturn the whole method of practice, which is so well established, from which no person hath pretended to deviate?' 'Indeed, sir,' cries the apothecary, 'you do not know what you are about, asking your pardon; why, he kills everybody he comes near.'"

In the story of the "Man on the Hill," in "Tom Jones," he pays a tribute of respect to his own surgeon, Dr. Ranby. He says:

"R. had the first character in his profession, and was sergeant surgeon to the King. He had, moreover, many good qualities and was a very generous and good-hearted man and ready to do any service to his fellow creatures."

The revulsion against polypharmacy is expressed in the words of Dr. Thompson, who "blew up the physical magazine," that is, he discontinued the administration of the many powders and potions; he "blooded" the patient instead, gave her a clyster, etc.

Notwithstanding the fact that all his medical types play such an insignificant part in his works that they can hardly be called characters from the standpoint of the reader of modern novels, yet we believe that the medical reader with a critical eye will find every line pregnant with curious historical data concerning our brethren of almost two centuries ago. Fielding has truly estimated his own works by saying that they depict "not men but manners, not an individual but a species."

That Fielding did not write about physicians from hearsay or imagination, but from an intimate acquaintance with the medical profession, is evident from the fact that he was an invalid for many years. He came in contact now with the most eminent surgeons and again with most celebrated quacks. Fielding suffered from gout all his life, and having been a high liver he succumbed at the age of 47 to a complaint which was characterized by dyspnea, jaundice, dropsy, extreme feebleness and emaciation. There is no doubt that he suffered from cirrhosis of the liver. He was treated by the following: In 1749[2] by Dr. Thomson, who is described by Johnson as "a man who had by large promises and free censure of the common practice of physic forced himself up into a sudden practice." In 1751 we find Fielding taking the water cure[3] in Somersetshire, which he claimed publicly had relieved him from a disease which baffled the most skillful physicians. Of course, as subsequent events have shown, he did not obtain any permanent relief. In 1752 he had a literary tilt with Dr., afterward Sir John Hill.[4] During the same year he was taking the Duke of Portland medicine, a popular Eighteenth Century gout powder. The disease, however, made rapid strides, and a deep jaundice set in. Dr. Ranby[5] advised him to go to Bath. In 1754 he returned to London in a most deplorable condition and placed himself under the care of the notorious Joshua Ward,[6] who was, however, the first to relieve Fielding of his dropsy by tapping. In May of the same year he was induced to take up the tar cure.[7] As a last hope he was advised to go to Portugal. While on board the ship he was tapped by the celebrated William Hunter. He died in Lisbon Oct. 8, 1754.

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2. He must have been under the care of a physician prior to this date, but I was unable to find any record.

3. This cure came in vogue through an obscure man, who was afflicted with what was considered an incurable case of asthma, and who saw in his dream "near the chain-gate, in the horse track, the clearest pool of water, and that a person told him if he drank a glass of the same, fasting for seven Sundays, he would be cured."

4. Hill was originally an apothecary, but abandoning his business for the stage he produced a few bad farces at the Haymarket, in which he appeared as an actor. Garrick wrote the following epigram on Hill:

> For physic and farces
> His equal there scarce is,
> His farces are physic,
> His physic a farce is.

Having been hissed off the stage, he took up the study of medicine and natural history. He seems to have been a prolific writer. The Surgeon-General's Catalogue has 12 entries under his name, mainly on subjects of materia medica.

5. Ranby wrote a celebrated essay, "The Method of Treating Gunshot Wounds."

6. From the Catalogue of the Surgeon-General's Library I conclude that Ward made himself famous by his "drop and pill." There must have been quite an agitation among the profession concerning this remedy. Clutton, for instance, writes a pamphlet in 1736 entitled "A True and Candid Relation of the Good and Evil of Joshua Ward's Pill and Drop." Packe writes an answer to Dr. Turner: "On the subject of Ward's drop and pill wherein his (Dr. Turner's) ignorance of chemical pharmacy is fairly exposed." Tennent, in 1742, writes: "On the mercenary practice of physicians . . . and by his (Dr. Ward's) pernicious progress with medical secrets." Even as late as 1763, Page writes: "Receipts for preparing and compounding the principal medicines made use of by the late Dr. Ward." Pope refers to him: "Ward try'd on Puppies and the poor his drop." He is mentioned in Hogarth's "Consultation of Physicians," 1736. He was the attending physician of George the Second. I should have liked to know more of Mr. Ward, but the literature is not accessible.

7. Bishop Berkley wrote a treatise in 1744, "Philosophical Reflections and Inquiries Concerning the Virtues of Tar Water." Horace Walpole gives in a letter to Mann the following humorous account of the tar-water craze: "We are now mad about tar water, on the publication of a book by Dr. Berkley. The book contains every subject from tar water to the trinity; however, all the women read—and understand it no more than if it were intelligible. A man came into an apothecary's shop the other day. 'Do you sell tar water?' 'Tar water,' replied the apothecary, 'why, I sell nothing else.'"

That Fielding wrote his novels not solely for the amusement of his contemporaries, but also with a view of imparting to future generations valuable data of the habits, customs, morals, etc., of the men and women of his day, and that he also possessed the prophetic sense of foreseeing that some day his novels would be read by some one (whether by the present writer or not remains a mooted question) for the sole purpose of studying the medical types he has described, is evident from the following remarks found in "Amelia":

"Some readers will think the whole chapter (the consultation of the physician quoted above) might have been omitted, but though it contains no great matter of amusement, it may at least serve to inform posterity concerning the present state of physic, . . ."

Special Article

IMMUNITY.

CHAPTER XV—CONCLUDED.

Old Age.

Metchnikoff, taking the view that the phenomena of old age depend on the destruction of various tissue cells by the mononuclear leucocytes, expressed the hope that a lymphotoxic serum might be utilized to combat the action of these cells, with the result that life would be prolonged. Whether or not his view as to the cause of old age is correct, his plan of antagonizing it had to be abandoned because leucotoxic serums do not injure the "macrophages" (large phagocytes) to the exclusion of other leucocytes.

Effect of Leucotoxic Serum on Resistance to Infections.

The injection of a leucotoxic serum into the peritoneal cavity of a guinea-pig causes a temporary decrease in the number of leucocytes, and during this period of hypoleucocytosis the resistance of the animal to peritoneal infections with the organisms of typhoid and cholera is lowered. One may refer this effect to the destructive action of the serum on the leucocytes, by which phagocytosis is prevented; or, according to Wassermann, it may depend on the action of anticomplement which the leucotoxic serum contains. Leucocytes contain complement, hence immunization with leucocytes causes the formation of anticomplement. In the course of 24 to 48 hours after peritoneal injection of the serum, the leucocytes reaccumulate to an enormous extent. During this secondary hyperleucocytosis resistance to peritoneal cholera or typhoid is increased. Some non-toxic substances, as bouillon, have a similar effect, and although the secondary leucocytosis is never so great as that caused by the leucotoxic serum, the protective action is equally high. It would seem that, leucocyte for leucocyte, those which accumulate following the injection of leucotoxic serum are less efficient in antibacterial action than those whose presence is caused by non-toxic substances. Hence there probably is no field for leucotoxic serum as a means of temporarily increasing resistance to bacterial infections.

By guarded immunization Besredka obtained an antileucotoxic serum.

Nephrotoxic Serum.

Nephrotoxic serums have been brought into close relationship with clinical and anatomic problems by a number of investigators. Some normal serums are held to be nephrotoxic inasmuch as their injection is followed by albuminuria and renal degenerations. Immune nephrotoxins have a similar but more pronounced effect, and Lindeman referred the death of his experiment animals to the development of a uremic condition.

Autonephrotoxins.

Of more than ordinary interest is the claim of certain workers that autonephrotoxins may be formed in the body. One (Lindeman) caused a toxic nephritis in dogs by the injection of potassium-bichromate. The serum of this dog, although free from chromic acid, was toxic for other dogs, producing the symptoms which are caused by an immune nephrotoxic serum. It was supposed that the chromic acid in the first dog caused disintegration of renal cells and that the constituents of the latter were then taken up by nephrotoxic receptors which normally reside in the organs of the animal; as a result the autotoxic receptors were overproduced and their presence became manifest when the serum was injected into other dogs. In accordance with this view the original toxic cause of a degenerative nephritis would be of less consequence for the continuance of the condition than the formation of the nephrotoxic amboceptors.

Somewhat similar results were obtained by others through ligation of the renal vein or artery on one side; constituents of cells of the isolated kidney were supposed to be absorbed, and as a consequence nephrotoxic amboceptors were produced in excess by organs of uncertain identity. To the new-formed bodies were attributed the degenerative changes which were found in the opposite kidney, and the nephrotoxic properties which the serum manifested when injected into a healthy animal of the same species.

According to Ascoli and Figari unilateral nephrectomy so injures the opposite kidney (overwork) that the serum of the animal becomes nephrotoxic. They state also that an animal, the serum of which contains nephrotoxin may antagonize the latter by the production of antinephrotoxin, and suggest that spontaneous recovery from nephritis may be due to the action of such an antibody. They would account for the cardiac hypertrophy of nephritis by the action of nephrotoxic serum in causing contraction of the peripheral vessels with consequent increase of blood pressure; and for the nervous symptoms on the basis that the serum contains a neurotoxic constituent.

We hardly dare consider such far-reaching conclusions as decisive until they have been extensively confirmed. Yet whatever may be their real value they serve to emphasize the possibility that those principles which are so important in relation to immunity against infectious diseases, may be equally important in relation to other pathologic conditions.

Hepatotoxins.

Hepatotoxins have been obtained by a number of workers, and the attempt has been made to produce autohepatotoxins by injecting liver tissue of the guinea-pig into animals of the same species. The success was not unqualified. Hepatotoxins when injected are reported to cause insular degenerations of the liver; however, the lesions may be caused, in part at least, by capillary emboli of endothelial cells or erythrocytes.

Neurotoxin.

Neurotoxic serums have been studied with some thoroughness. Whether one injects the cerebrum, cerebellum or spinal cord, the resulting serums apparently are similar: either an anticerebral or an anticerebellar serum will cause degenerations of the spinal ganglion cells. In view of their broad range of action it seems improbable that neurotoxic serums will be of service in clearing up the etiology of system degenerations of the nervous tracts. They are usually hemolytic and hemagglutinating and may also be endotheliotoxic and leucotoxic. When mixed with emulsions of the homologous brain tissue the neurotoxic amboceptors are bound by the receptors of the nervous tissue, and the serum consequently loses its toxicity. Antineurotoxic serums have been described.

Syncytiotoxin in Relation to Eclampsia.

Syncytiolysin is the name given to a serum which is obtained by immunization with the placenta. Certain writers (Veit and Scholten, Charrin and Delamare) report that the injection of placentar tissue alone causes albuminuria, a consideration which led them to assume that the placentar cells contain a nephrotoxic substance. Inasmuch as placentar cells or their constituents may reach the circulation during eclampsia (Schmorl) it was not a long step to suppose that the nephritis of pregnancy is due to the toxic syncytial cells which are absorbed. The results which Weichardt reported gave some strength to the view just cited. By treating placentar tissue of rabbits with the specific syncytiolysin the toxin supposedly was liberated, and the mass when injected into normal rabbits is said to have produced symptoms of an eclamptic nature. On the basis of these observations the hope has been expressed that an antitoxin for eclampsia might be prepared by immunization with placentar tissue. However, the conditions are by no means simple; any value which the destruction of circulating syncytial cells or their

toxin would afford might be more than offset by the action of the hemotoxin and neurotoxin which the serum is said to contain. Whether or not the hypothetical toxin of syncytial cells may be separated from the other cell constituents, and whether immunization with the toxin will yield an antitoxic serum are possibilities which remain for further investigation; the results cited have not been obtained by all observers.

Liepmann hopes for a serum-diagnosis of pregnancy. If, as supposed, the blood of a pregnant individual contains syncytial cells or their products of degeneration, the serum when mixed with a specific syncytiolysin may cause a precipitate. He claims to have demonstrated the presence of placentar constituents in the circulation by this biologic method.

Thyrotoxin. Antithyroid serum is prepared by immunization with ground-up thyroid tissue or with extracts of the organ. It is hemolytic, even though all the blood has been washed from the tissue which was injected. Portis immunized with the "colloid" material of the gland obtaining a hemolytic thyrotoxic serum. When injected into the living animal degenerative changes are produced in the thyroid, and some authors report the tetanic phenomena which often follow surgical removal of the thyroid. In very careful work, however, Portis could not produce "the exact picture presented by thyrodectomized animals." Degenerative changes were found in various organs, as liver, spleen and kidneys.

Sympathetic Ophthalmia. Brown Pusey has made the interesting suggestion in regard to sympathetic ophthalmia that the disease may be due to the formation of autocytotoxins which are specific for the cells of the inner surface of the ciliary body and iris. The disintegration products of the corresponding cells in the eye which was primarily injured would constitute the stimulus to the formation of the specific antibodies. The possibility is as yet a problematic one.

Pancreotoxin. The experimental study of cytotoxic serums for the pancreas has, up to the present time, thrown little light on pancreatic diseases. It stated that the serum may cause transient glycosuria, and it is said to have an antitryptic action in experiments performed in the test-glass.

Other Cytotoxins. The results of different observers concerning the action of antiserums for the adrenal gland are not in entire accord. Although degenerative changes may be caused in the gland when the serum is injected, the action is not specific; the serum may be highly hemolytic (Abbott).

Ceni claims to have demonstrated in the circulation of epileptics a cytotoxin which causes the epileptic attacks, and reports the production of a specific antitoxin.

Toxin of Exhaustion. Weichardt has published descriptions of a toxin which is peculiar to states of exhaustion, giving an account of the specific antitoxin which he produced by immunization.

Other cytotoxins which have been prepared, as those for the pituitary body, gastric mucosa and cardiac muscle, have at the present time nothing more than general biological interest.

Concerning Autocytotoxins. It would seem that no question in relation to cytotoxic serums is more important than the possibility that autocytotoxins may develop and institute the vicious cycle which was mentioned earlier. It is true that the results of some investigators suggest the probability of such a process, but it would be going too far to say that its existence as an important pathologic law has been established. On the contrary, the development of autocytotoxins is one of the rarest of occurrences in experimental work; and Ehrlich has spoken of the inability of the body to form such antibodies as a condition of "horror autotoxicus." The cells of our kidneys and our erythrocytes certainly do degenerate, and it is quite possible that the receptors which are thereby liberated actually reach cytotoxic amboceptors which are situated in other organs. In the event that the process extends to this point, Ehrlich assumes that the amboceptors are of a sessile nature, that in spite of the stimulation to which the cells are subjected the "sessile amboceptors" may not be overproduced and liberated as in the case of antibodies for bacterial substances or for the cells of other species. In accordance with this explanation we are saved from intoxications of the nature in question because of the sessile nature of the cytotoxic amboceptors.

"Horror Autotoxicus."

(To be continued.)

Clinical Reports

EMPYEMA TREATED BY PERTHES' METHOD.

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AUBURN, N. Y.

After evacuation of the pus in cases of empyema, the huge suppurating cavity that remains must be obliterated. In cases in which the lung, though compressed against the spine or mediastinum, is not yet held in its false position by strong adhesions or by thick deposits of organized new material, aseptic opening and plentiful gauze dressings are sufficient.

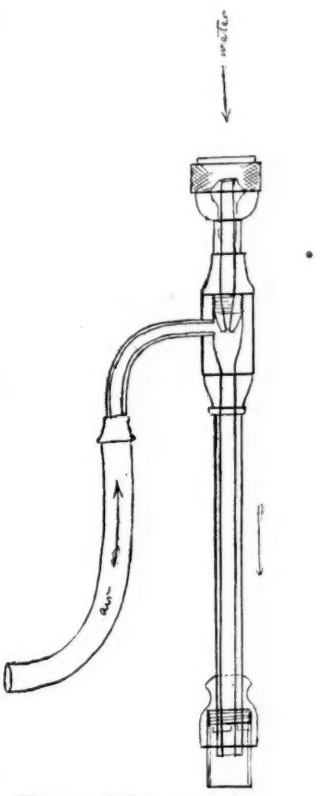

Fig. 1.—Saliva evacuator.

These dressings act as a valve as well as a protection from infection, and they absorb discharge. Air or gas present in the pleural cavity with every cough, indeed with every expiration, is expelled little by little into the gauze covering the orifice of the wound, while this mass of gauze applies itself too firmly to the chest to permit entrance of air from without, and there is produced within the thorax a tendency to a vacuum, a negative pressure, which sucks the collapsed lung out toward the chest wall. The ideal treatment, then, for empyema of recent origin is absolutely aseptic incision, with or without excision of a portion of the rib, one irrigation of the pleural cavity by salt solution—if necessary to remove fibrinous masses, otherwise no irrigation—and voluminous pad dressings of gauze firmly applied to the chest wall by means of an elastic bandage. When these dressings become soaked, they are changed under aseptic precautions. If no mixed infection occurs, we may confidently expect to cure these cases in a few weeks.

In a case in which effusion has been present long enough

for the lung to be more or less bound down by adhesions, or in which evacuation and gauze dressings have not been followed by expansion of the lung, some means must be found of bringing lung and chest wall in contact, or the alternatives must be faced of a long and exhausting discharge, ending in waxy degeneration of the viscera and death, or a frightfully mutilating operation on the thoracic wall, in order to permit it to meet the shrunken lung and to obliterate the pleural cavity.

In these cases, Perthes' method is worthy of consideration. This method aims at the production of constant negative pressure, a tendency to a vacuum within the chest, with the expectation that the lung, unless held down by inextensible adhesions, will expand and adhere to the thoracic wall. Various pumps have been used to produce this constant suction, running water being the agent which has actuated them all.

Patient.—On May 16, 1903, J. B., aged 24, was transferred from the medical to the surgical service of the Auburn City Hospital for operation on left empyema.

History.—The patient had had severe pneumonia of the same side, and convalescence had only begun when empyema occurred. One aspiration had already been done, but pus rapidly reaccumulated.

Operation and Result.—May 16: The left chest seemed absolutely full of pus, and under ether so much embarrassment of respiration occurred, and the patient so nearly died, that the contemplated operation of rib-resection had to be deferred, immediate relief being given by what amounted to a stab in the eighth intercostal space. Pus escaped in a jet, a drain-tube was pushed into place and sewed to the skin, a gauze dressing was applied, and the patient was hurried to his room. Here he rallied, and for some days there was satisfactory drainage. On May 22 I was surprised to find, on removing the dressing, that the drain-tube had torn its suture through the skin to which it was sewed and had been sucked into the pleural cavity. The loss of the drain-tube necessitated the completion of the operation first planned, viz., resection of a portion of rib, and larger drainage, with incidental recovery of the lost tube. The next day, May 23, the eighth rib in mid-axillary line was exposed, the periosteum and pleura were separated from it, and three inches of its length was resected. The pleura was then opened and the pleural cavity flushed with hot saline solution. During the irrigation the lost tube washed into the opening and was recovered. A large dressing was then applied, and the patient put to bed in good condition.

All went well for over three weeks. Drainage was free, asepsis was maintained, there was no temperature, and the patient gained strength. It then became apparent, however, that the lung was not going to expand, and that sooner or later we should be forced to resort to some means of obliterating the secreting cavity of the pleura.

Perthes' Method.—June 16 I installed a vacuum apparatus after the method of Perthes. Please observe that the chest had been opened one month, and that the lung had been compressed at least six weeks, before Perthes' plan was put in operation.

In assembling the essentials of the apparatus I was much assisted by Dr. Van Hook's[1] report of his experiences in a similar case, though in many particulars I was compelled to depart from his suggestions.

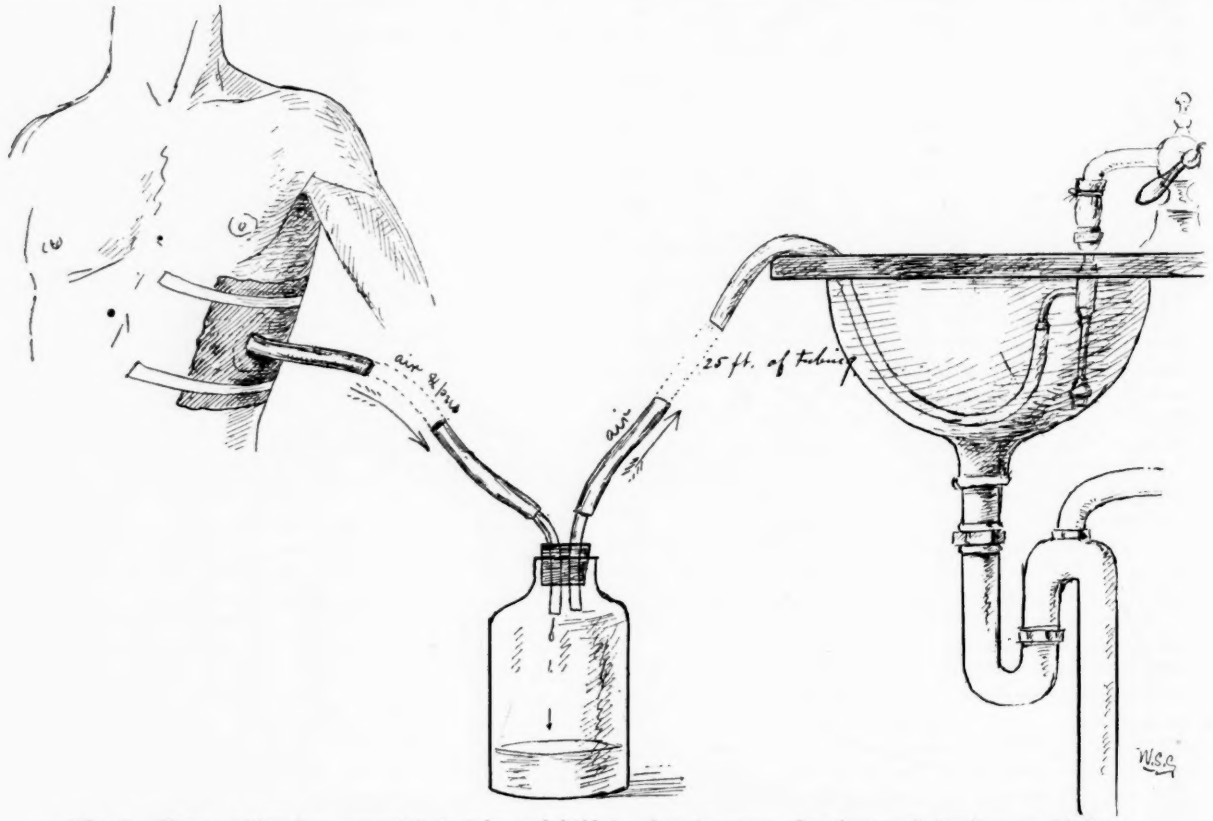

Fig. 2.—Shows rubber-dam cemented to tube and held in place by gauze dressings and bandage or binder.

Of the various air-pumps, run by water or electricity, I found none so easily applicable nor so efficient as the little suction apparatus which dentists employ to keep the mouth free of saliva during long dental operations and known as a saliva evacuator. Dr. F. H. Lee, D.D.S., kindly loaned me one of these instruments (Fig. 1), which I connected with a faucet in a bathroom near the patient's room. It was then connected by tubing, with a large bottle under his bed. This bottle was connected by tubing with an air-tight dressing over the wound (Fig. 2).

In making this air-tight dressing I tried to follow Dr. Van Hook's plan, using for drainage a stomach tube piercing and cemented to a large square of rubber-dam, the whole being held to the chest by adhesive straps and a large gauze dressing. I found it difficult, however, to have rubber-dam ce-

1. THE JOURNAL A. M. A., May 30, 1903.

mented to a tube so strongly that, after sterilization, it would not soon leak air. So I took the rubber parts of bicycle-tire valves, known to the trade as "valve-stems," and cemented them together, as shown in Figure 3, making virtually one tube with a wide flange. One end enters the chest, over the other the tubing going to the bottle is slipped, and to the flange rubber-dam can be fastened strongly. Some oxid of zinc ointment spread over the skin beneath the dam causes it to adhere and improves the air-tight character of the whole dressing.

I did not experience the need for Perthes' complication of apparatus, mercurial manometer, etc., as my patient was at once able to tell how much negative pressure he could bear, and this was simply regulated according to his feelings by turning the stopcock of the water faucet. At first he could not endure strong suction; later, as the lung expanded, he bore a pressure which collapsed the tubing.

Result.—When the suction apparatus was installed the cavity of the pleura was apparently no smaller than when first opened. Six weeks had done nothing toward improving the outlook for eventual closure. Except high in front, one heard over the whole left chest the amphoric breath and voice sounds of general pneumothorax. Four days after Perthes' method was employed I began to hear normal breath sounds over the back, and a few days later over the front and sides of the chest. By July 4—less than three weeks—adhesions of lung and thorax had become so extensive that introduction of the tube was difficult. One month later the use of the apparatus

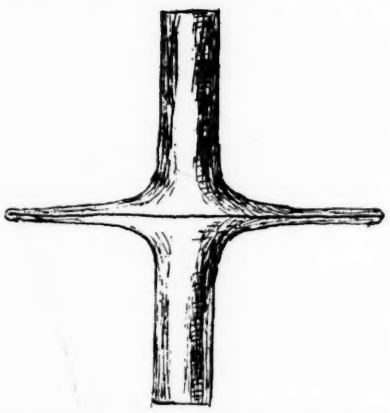

Fig. 3.—Valve stems cemented together.

was discontinued, a small sinus leading to a pocket holding not more than four ounces being all that remained of the cavernous space of the pleura. Meanwhile the general health improved, the patient gained flesh and strength, and in October he returned to his home in a distant town. The sinus closed soon after. He is now working at his trade as a mechanic.

Remarks.—It must be remembered that this method is not proposed for the cure of old chronic empyemas, in which the lung is compressed and immobilized by deposits of what may be termed pachy-pleuritis. But the published experiences of others, and my own experience in this case, lead me to place confidence in it for cases in which the lung fails to expand, yet is still expansible. Nothing in this method makes hospital care necessary. The details can be followed out in a private house. The only demand made on a home is that it contain a water faucet.

I once before knew of a drainage tube being drawn into and lost in the chest. In that case the tube had been transfixed with a safety-pin, but the exertion of coughing had torn the tube away from the pin and pulled it inside. It remained there and was never recovered. This was before the days of effective asepsis, and the patient, an old man, soon became exhausted by his discharge and died. I could not make out that his end was in any way hastened by the accident, but his recovery certainly would have been delayed or prevented had he lived. These cases have convinced me that neither transfixion with a safety-pin nor sewing to the skin, methods recommended by the surgical text-books, are trustworthy.

RESECTION OF MIDDLE TWO-THIRDS OF STOMACH WITH END-TO-END ANASTOMOSIS.*

W. A. CLARK, M.D.

Superintendent and Resident Physician Alameda County Infirmary.

SAN LEANDRO, CAL.

Patient.—A carpenter, aged 57, weight 131, was admitted to the County Infirmary July 16, 1904, complaining of a tumor in the abdomen.

History.—Father died of old age. Mother died during confinement. One sister died of pneumonia. Two sisters and two brothers are alive and well. In 1870 he had typhoid fever; otherwise he has been strong and healthy. He does not use alcohol or tobacco.

Present Illness.—The present trouble began about two weeks ago, when he accidentally noticed a swelling in the region of the stomach a little to the left of the median line. He has had no pain or tenderness, and has felt the same as usual. During the past four years he has had a sensation of fullness after eating and has raised considerable gas; this latter symptom has not been confined to any definite period during the day. For the past week his appetite has not been so good as usual, but it is still quite fair. Bowels are regular and he sleeps well at night. He has lost from ten to fifteen pounds in the last four or five months. He feels very weak and can not work. He consulted Dr. Miller, San Leandro, who examined the tumor and advised him to come to the infirmary for operation. He never vomits, but he has had frequent attacks of water-brash.

Examination.—The patient is fairly well developed but poorly nourished. Nothing abnormal was found in the lungs. The heart is slightly enlarged to the left. The left border is in the mammary line. A loud systolic murmur is heard at the apex, transmitted to the axilla and back. The impulse is regular in force and rhythm. The liver extends from the sixth rib to the costal margin. The spleen is not palpable. The abdomen is slightly distended, but there is no tenderness. To the left of the median line and above the umbilicus a tumor can be felt apparently of about the size of a hen's egg. It is not tender on palpation. No difference in rigidity between the two sides of the abdomen can be determined. The urine is amber in color, specific gravity 1,030, solids 69.90, reaction acid, no albumin and no sugar.

Diagnosis.—Carcinoma of the stomach. An exploratory incision was advised, with further operation, if deemed advisable.

Operation.—July 21, in the presence of Drs. Miller, Browning, Condit and Irwin. After the abdomen had been prepared in the usual manner and the patient had been anesthetized with chloroform, a vertical incision about four inches long was made over the most prominent part of the tumor, down and through the peritoneum. As there were no adhesions the stomach was easily delivered through the wound for inspection. The growth was found to involve a large part of the greater curvature and the posterior wall of the stomach. Several greatly enlarged mesenteric glands were found along the lesser curvature well up on the esophageal end. The pylorus was in perfect condition. It was not considered advisable to try to remove the growth and to preserve the integrity of the stomach, as the organ would then have been left divided into two pouches with the opening in the partition at the top, so resection of the middle portion was decided on. The pylorus was separated from the body of the stomach by division between clamps to prevent any secretions from the stomach soiling the wound. The mesentery and omentum were also divided and ligated immediately. Clamps were placed as near the esophageal end of the stomach as possible and division made in the same manner as at the pyloric end; in all somewhat over two-thirds of the entire organ was removed. Considerable trouble from bleeding was experienced in removing several enlarged glands near the esophagus. In order to remove some of these

* Read at meeting of Alameda County Medical Society, Oakland, Cal., 1904.

glands it was necessary to sacrifice practically all of the lesser curvature remaining on the cardiac fragment of the stomach, leaving a double angular line of incision about four and a half inches long. In order to effect an anastomosis with the pyloric edge, which was a little less than two inches long, it was necessary to close the upper incision to within about two inches of the inferior border. This was done by a double row of Lembert silk sutures. The mucous membrane of the two ends to be anastomosed was brought together with a continuous suture of fine silk. The serous and muscular coats were next united by a double row of Lembert sutures completing an end-to-end anastomosis. Modified Mikulicz drains were then placed one above and one below the anastomosis and brought out through the abdominal wound, which was partially closed above and below with interrupted silkworm gut sutures.

Result.—Once during the night the patient vomited about two ounces of a brownish fluid. During the first twenty-four hours he received 1/5 grain strychnin sulphate hypodermically, 63 ounces salt solution subcutaneously, and 12 ounces nutrient enema consisting of peptonized milk 2 ounces, yolk of one egg, brandy 1 ounce, and normal salt solution 3 ounces. Because of seepage the outer dressing was changed that night.

This line of treatment was continued with slight modifications as necessary until September 6. On July 25, seven days after operation, hot water for the first time was given by the mouth, a teaspoonful every hour. On the day following barley water was substituted. The next day milk was given in teaspoonful doses. On July 31, or ten days after operation, broths were commenced, and then from day to day, malted milk, beef juice, peptonized preparations and egg nog were added until on August 26 he was given four raw oysters. Milk toast, crackers and cocoa were then gradually added and on September 2, forty-two days after the resection, he was given a small rare steak. This latter event, in my opinion, was of greater importance to him than the operation.

The convalescence was not without its complications, for on the sixth day bile was noticed on the dressings, and on the twelth day fecal matter was discharged through the wound. These two conditions continued for thirty-two days. The wound then rapidly filled up and on September 27, sixty-seven days after operation, he was discharged from the hospital. On the fourth and fifth days the temperature reached 100.2 F., which was the highest point attained. The highest white blood count, 8,400, was reached on the fifth day.

Subsequent History.—Dec. 12, 1904. Patient returned to-day to report. He weighs 139 pounds, this being a gain of eight pounds since July 16, the date of admission to the infirmary. There is present a very small sinus in the scar, which although closed for some time, reopened two days ago. His appetite is excellent, he is not distressed after eating, and, in fact, does not find it at all necessary to select particular articles of diet.

Remarks.—There are one or two points worthy of notice in this case. We had to deal with an extensive malignant growth involving a large part of the walls of the stomach, but not the cardiac or pyloric orifice, consequently there were no symptoms of prominence. An early diagnosis was made and an immediate exploratory incision was advised by Dr. Miller, his attending physician. We have here an example of what all our teachers, writers and workers so earnestly advocate in suspected malignant growths of the stomach—early recognition of the disease, and an immediate exploratory incision and further operation if deemed advisable.

SUDDEN DEATH FROM THE REMOVAL OF PLEURITIC FLUID.

EVERETT MINGUS, M.D.
MARSHFIELD, ORE.

Under ordinary conditions the removal of one-half of a pleuritic effusion is seldom attended with any risk, but the following case illustrates very clearly how removal of even this amount may be attended with rapidly fatal results and shows the necessity of proceeding cautiously in performing this simple operation when certain pathologic conditions are present.

Patient.—R. M., aged 27, weight 190, well nourished and good muscular development; occupation, laborer; family history negative.

History.—He had complained of poor heart action for 5 or 6 years. He had been treated by several physicians. About 18 months prior to his death he began to complain of a distressing dry cough, shortness of breath on exertion, general malaise and palpitation of the heart. He was again treated by a number of physicians for heart trouble until he came under the care of Dr. J. T. McCormac of Marshfield, who made a correct diagnosis of his case, viz.: pleural effusion extending to the third rib.

Diagnosis and Treatment.—Dr. McCormac, to confirm his diagnosis, withdrew about four ounces of the fluid with a small exploring needle and suggested tapping for a larger amount the following day. However, the condition of the patient was not so good and the matter was deferred. During the next three weeks the patient had considerable elevation of temperature, loss of appetite, distress in the thorax and his cough was worse, with scant expectoration. His condition then improved, and an additional amount of the pleuritic fluid was withdrawn, amounting to about 16 ounces. About two minutes afterward the patient complained of feeling faint; he was put to bed and immediately expired.

Autopsy.—Subject was well nourished. Heart was slightly enlarged and soft, valves normal. Twenty-four ounces of straw-colored fluid was in the left thoracic cavity. There were scattering adhesions, both old and recent, between visceral and parietal pleura. The pleura was considerably thickened and was the seat of numerous miliary tubercles. The entire left lung was dark from hemorrhagic clots and showed numerous rents in the walls of the blood vessels; it appeared more like a large blood clot than a lung. The whole left lung had lost its elasticity from long-standing pressure and tubercular processes and had become fragile so that when the outside pressure was relieved by the withdrawal of the pleuritic effusion it burst asunder on the admission of the arterial pressure. The walls of the blood vessels were the seat of degenerative changes; the intima was rough and the endothelial lining was broken in many places; muscle fibers of the media were cloudy and showed evidence of fatty degeneration; the adventitia was thickened and infiltrated with leucocytes. The pulmonary alveoli were filled with desquamated epithelium, blood and products of inflammatory exudate; the walls were ragged and compressed; the alveolar septa were infiltrated with round and spindle cells, leucocytes and red blood corpuscles. The respiratory bronchioles, peribronchial and interlobular connective tissue were studded with numerous tubercles and small caseous areas and broken-down elements of necrosis.

Remarks.—The rapidly fatal results and the pathologic findings in this case, I think, clearly demonstrate the necessity of searching carefully in old standing cases of pleural effusions for tubercle bacilli, and should they be found or should the clinical history of the case be such as to lead one to suppose that the etiologic factors are of a tubercular nature, tapping for the relief of the symptoms caused by the pressure of the fluid should be undertaken with caution.

A small quantity, perhaps from four to six ounces, should be withdrawn and the effect noted. In this case the removal of four ounces three weeks previous to the fatal tapping produced considerable reaction; elevation of temperature, rapid pulse and other unfavorable symptoms which disappeared as soon as the original amount was restored. If unfavorable symptoms develop after the withdrawal of a test quantity I think further tapping is contraindicated, provided the collection does not produce distressing or alarming dyspnea, and even under these urgent circumstances the amount withdrawn should be regulated with caution. Serous effusions in chronic tubercular processes of the lung act as a splint, giving sup-

port to the weakened vessels, limiting the respiratory movements on the affected side and keeping the parts at rest. The practicability of estimating the area involved and its extent in the presence of a large effusion is out of the question and the insidious manner in which many cases of serous effusion into the pleural cavity come on as a result of tubercular infection leaves one in considerable doubt as to the exact condition of the lung and the consequences of removing the fluid. A lung that has been long compressed undergoes degenerative changes not only from the diseased condition, but from disuse and from impaired blood supply so that its safety depends on the presence of the effusion in sufficient quantity to hold it together.

In this case no microscopic examination of the bronchial secretions was made prior to the autopsy. Tubercle bacilli were found on the free surfaces of the larger and smaller bronchi postmortem, and it is probable that they could have been found in the scant morning expectoration which the patient had. In this connection it is pertinent to remark that physicians are frequently deceived by the statement of patients in regard to the expectoration and coughing in the early stages of pulmonary tuberculosis; they invariably state there is no cough or expectoration when persistent inquiry will elicit the fact that there is slight cough in the morning, to which the patient attaches no significance or he terms it the "morning clearing." All cases of pulmonary tuberculosis begin in this manner, and when it is associated with other evidence of impaired health a careful and frequent examination of the sputum should be made. In tubercular affections limited to the pleura perhaps no bacilli would be found, but in miliary tuberculosis of the lung associated with small caseous areas careful searching will reveal them even in the presence of a considerable pleural effusion which compresses the lung and prohibits the free escape of bronchial secretion from the diseased area.

PRIMARY TUBERCULOSIS OF THE BLADDER.

S. WILLIAM SCHAPIRA, M.D.
NEW YORK CITY.

Patient.—N. K., stock broker, aged 36, was referred to me for cystoscopy and possible catheterization of ureters on account of frequent micturition during the past two years. Previous history is negative.

History.—About two and a half years ago the patient experienced a frequent desire to micturate by day, which was temporarily relieved by medicine and bladder irrigation. About four months ago, he suddenly developed epididymo-orchitis, which partially subsided in four weeks.

Examination.—I first saw the patient Nov. 9, 1904. His urine was turbid. After thorough irrigation of the bladder, I injected boric-acid solution and inserted a cystoscope, with two catheters attached. I found a sore as large as a five-cent piece at the apex of the trigonum, a smaller one about one-half inch to the left, and a number of disseminated tubercles on either side of the trigonum.

The mouths of the ureters looked healthy. I passed the catheters into each ureter for about two inches and collected clear urine from both kidneys, in contrast to the turbid urine from the bladder. The testes and epididymis were tubercular, that is, there was a tubercular epididymo-orchitis, in which both cords were involved. The prostate was slightly enlarged and sensitive. On massaging, I squeezed out some prostatic fluid, which was sent to be examined microscopically. The patient at this time complained of frequent urination by day and night and of very severe pain in both testes.

Diagnosis.—The three specimens of urine, i. e., the first turbid urine from the bladder and the two clear specimens drawn from the ureters were given to his physician for chemical and microsopic examination, and he was asked to make repeated microscopic examinations of the patient's sputa and to let me know the result, as my diagnosis of the case was tuberculosis of the bladder.

Microscopic Report.—In a few days his physician reported that the bladder (first) urine contained numerous quantities of tubercle bacilli and that the specimens drawn from both ureters were normal and perfectly clear and contained no bacilli. Sputa examination: No tubercle bacilli. Prostatic fluid: A number of tubercle bacilli.

Treatment.—Nov. 12, 1904: The patient complained of severe pain in both testes. I again examined his bladder with the cystoscope and catheterized both ureters, with the same result. I advised him to have both testes and cords removed, which was done on Dec. 21, 1904. All contained tubercle bacilli.

Remarks.—I report this case because I have found no case fully reported as primary tuberculosis of the bladder. Pathologists are divided as to the initial lesion, some claiming that it is in the testes, while others hold that it is in the kidneys. In this case it is clear that the kidneys and ureters were perfectly healthy, and that the bladder symptoms preceded the symptoms of the testes, prostate and vesicles by nearly two years. Taking into consideration the fact that the patient was robust and in good health up to two and a half years ago, and that his father, mother, brothers and sisters are in perfect health, I can not but conclude that it is a case of primary tuberculosis of the bladder, followed by extension of the disease to the prostate, vesicles, testes, epididymis and cords.

64 Rivington Street.

New Instrument

A NEW CHLOROFORM INHALER.

FREDERICK T. WRIGHT.
DOUGLAS, ARIZ.

I have devised a "one-handed" chloroform inhaler, a sketch of which is given herewith, for use especially in obstetrical practice. A rubber cork, pierced by two metal tubes, is inserted into a wide-mouth bottle of about two ounces' capacity. One of the tubes extends just beyond the bottom of the cork and is connected at its upper end with a rubber bulb. The other tube extends to the bottom of the bottle; its outer portion is curved so that its extremity, drawn out to a very fine point, looks downward. An ordinary mask is attached to the

bottle by a spring collar, being placed nearer the bottom than is shown in the illustration. By intermittent compression of the rubber bulb a very fine stream of chloroform is projected on the mask; the amount can be regulated at will. The bulb, bottle and mask are easily taken apart and packed into a compact bundle, which occupies very little space in an obstetrical bag.

The advantages of the apparatus are obvious. In the majority of obstetrical cases, especially in country practice, the physician is obliged to be his own anesthetist; with this device held in one hand, he can administer chloroform accurately and efficiently, following with ease any movements of the patient's head; at the same time his other hand is left perfectly free to "support the perineum" or for such other maneuvers as may be necessary.

Talent.—If the power to do hard work is not a talent, it is the best possible substitute for it.—*James A. Garfield.*

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SATURDAY, MAY 20, 1905.

A NEW CONTRIBUTION TOWARD THE SOLUTION OF PROBLEMS IN TUBERCULOSIS.

Especially within the last few years many ideas have been advanced which tend to shake long-cherished views concerning the spread of tuberculosis. Many of these ideas have been so directly at variance with accepted teachings that they probably would have received little attention if they had not been advanced by men of high international reputation. We refer to such theories as that of Koch, advocating the rarity of transmission of bovine tuberculosis to man; to that of Baumgarten, maintaining that most cases are of congenital origin; and to that of Behring that the disease usually is contracted in early extrauterine life and through the intestinal tract. The two latter views, as well as Ribbert's, that what apparently is primary pulmonary tuberculosis often is due to secondary deposits of tubercle bacilli by the blood stream, naturally tend to minimize the rôle of air infection and to lessen vigilance in guarding against such infection; just as a general acceptance of Koch's views would tend to relax measures to exclude the use of milk and meat of tuberculous cattle. Whatever their merits, these ideas have powerfully stimulated research in all fields which offer problems bearing on tuberculosis.

Other phases of the problem, especially the frequency and primary localizations of the disease in early life, the possibilities of prolonged latency (which would be essential if Baumgarten's or Behring's theories are correct), the relative frequency of primary invasion of the respiratory and digestive systems, particularly of the lymph nodes connected with them, have recently been studied thoroughly by Professor Harbitz[1] of Christiania, who carried on systematic work on autopsy material for a number of years. Some of the facts brought out by Harbitz merit special notice. Particular attention was given to autopsies in children (under 15 years). In 42.5 per cent. of 275 children, tuberculosis in some form was demonstrated. This high percentage is largely due to the fact that the lymph nodes were examined with great care both macroscopically and microscopically. Most noteworthy is the demonstration of latent tubercle bacilli in the nodes of 18 children under 11 years of age in whom painstaking examination revealed no evidence of tuberculous lesions. The presence of bacilli was shown by inoculations of guinea-pigs. Not less than 10 of the 18 children were under 1 year of age, and in 13 the bacilli were found in the cervical nodes only, in 3 cases in the thoracic, and in 3 in the abdominal nodes. This naturally suggests questions as to the virulence of latent bacilli and the possible duration of the latency, and these questions merit further study. Harbitz considers it plausible that latent bacilli frequently are less virulent than usual; he concludes that a latency of several months seems probable, while one extending over several years is not probable, as claimed by Baumgarten. The latter's claim of the frequency of intrauterine infection is consequently not substantiated by Harbitz, who, however, like Warthin and Cowie, believes that this mode of infection is of greater importance than is generally supposed. That great care must be taken in excluding postnatal infection is shown by the fact that Harbitz found extensive caseous tuberculosis in a child 2 months old, who undoubtedly had contracted the disease from the father after birth. Similar cases occur in the literature. These cases emphasize the great rapidity with which the disease may spread in the body of the infant. From the facts now available, it may be concluded that it is unlikely that a child infected with tuberculosis after birth should die of tuberculosis before the age of 4 weeks, but that it may die of postnatal infection when 8 weeks old, and probably even when only 5 or 6 weeks old.

Harbitz made a painstaking study to determine the primary localization of the disease. How difficult this is, how insufficient the ordinary routine autopsy methods are for the purpose is shown by the many peculiar routes which the infection may take. In 14 cases of localized tuberculous inhalation bronchopneumonia, Harbitz found that the inhaled material had come from the rupture of tuberculous bronchial nodes into the bronchus, about the terminal ramifications of which the tuberculous pulmonary changes were localized; these cases really were instances of primary infection of lymph nodes. Indeed, it would seem that in children, as a general rule, the lungs, when involved, are infected from the lymph nodes; for tuberculosis of the tracheobronchial nodes without involvement of the lungs is common in children, while the reverse is rare. From these nodes the infection of the lungs most frequently takes place in the manner just described, though a retrograde transport by the lymph channels is quite frequent. In 117 autopsies in children, Harbitz found that in 41 per cent. the disease was primary in the respiratory tract (including the tracheobronchial nodes), and in 22 per cent. in the digestive tract (including the tonsils, cervical and abdominal lymph nodes). In 9.4 per cent. there was a general lymphatic tuberculosis, while in the remainder the location of the primary lesion was more or less uncertain. In connection with tuberculosis of the digestive tract, attention is called to the difficulty of determining whether the infection is due to bovine bacilli taken with the food or to inhaled bacilli

1. Jour. Infect. Dis., 1905, vol. ii, No. 2, pp. 143-237.

mixed with the food. The large number of cases of latent tubercle bacilli in the cervical nodes as compared with the mesenteric points to greater danger of infection through the throat than through the intestines. While the different groups of lymph nodes sometimes are infected separately and occasionally, no doubt, by way of the blood, it seems likely that much more frequently the infection spreads from one group to another by way of the lymphatics. Extension upward and downward from primarily infected nodes in the chest appears most frequent, but descending infection from the cervical nodes and tonsils is also quite common; ascending infection from the mesenteric nodes seems more frequent than is commonly supposed. The determination of the primary point of infection is rendered difficult by the fact that we can not exclude the possibility that tubercle bacilli may pass through the intestinal mucosa and one or more groups of lymph nodes before they become stationary and set up inflammation. Feeding experiments on animals[2] have also shown that after the ingestion of tuberculous material the nodes in the chest may be first attacked, and bacilli have been found in the thoracic duct shortly after feeding.

Careful consideration is given by Harbitz to the frequency and localization of tuberculosis in adults. When all tuberculous changes in his series are represented by one curve, it begins with 72.5 per cent. at the ages between 16 and 20, then it sinks to the forties, and rises rapidly in the sixties, where it reaches 90 per cent. The latter high figure is, of course, due to the frequency of healed and latent lesions. These figures, however, are not so high as those reached by Nägeli (97-98 per cent.) and Burkhardt (91 per cent.), largely because Harbitz does not consider the presence of mere apical pleural adhesions or of thickened patches in the pleura over the apices or of small pleural scars in the pleura and lungs as sufficient evidence of former tuberculosis as Nägeli[3] did.

In adults, Harbitz found primary tuberculosis of the digestive tract in 5.5 per cent. of all postmortems; in 7.7 per cent. of all cases in which there was tuberculosis, and in 18 per cent. of all cases in which tuberculosis was the cause of death. In adults the disease was primary most commonly by far in the respiratory tract, but here also pulmonary tuberculosis quite frequently may arise by hematogenous infection from more or less remote foci, most frequently in lymph nodes. Ribbert, probably, goes much too far in considering this the rule. Harbitz emphasizes, however, the importance of careful inquiry into the early history of tuberculous patients, with special reference to enlarged lymph nodes in childhood. The fact that of 800 "scrofulous" children discharged from a Danish hospital no less than one-third had died of, or were suffering from, active tuberculosis, chiefly pulmonary, 10 years later indicates that progressive tuberculosis often starts in enlarged nodes in childhood.

The facts presented in this review show that the problems of invasion and localization of tuberculosis continue to yield valuable results when subjected to critical study by modern methods. Studies like the one here reviewed serve as starting points from which new investigations into various special problems may depart. It is evident that ordinary superficial and routine methods no longer suffice for progressive work in these problems. Painstaking work by means of anatomic and bacteriologic methods, coupled with abundant animal experiments, preferably, of course, on material with full clinical records, is the only way by which our knowledge of these questions can be actually furthered.

2. Weber and Bofinger: Tuberculose-Arbeiten aus dem Kais. Gesundheits, 1904, No. 1, p. 83.
3. Virch. Arch., 1900, No. 160, p. 426.

THE EARLY RECOGNITION OF INSULAR SCLEROSIS.

It is well known that hysteria may simulate almost any form of organic disease of the nervous system, and that the differential diagnosis is by no means always easy. The difficulty is in nowise lessened by the fact that the two varieties of disease may be associated in the same patient. Of the numerous affections of the nervous system, none perhaps exhibits greater variability in symptomatology than multiple cerebrospinal sclerosis, and that this should be so will be easily understood from the nature and distribution of the lesions. In an interesting and instructive paper dealing with the early symptoms of insular sclerosis, Dr. E. Hobhouse[1] takes the ground that hysteria is not rarely the prelude to this affection, and he states that it is exceedingly difficult in some cases to say where the one ends and the other begins, the disease often extending over a long period of years, so that it may be impossible to obtain a continuous clinical history.

The importance of making a correct diagnosis as early as possible resides in the application of appropriate treatment. Difficulty in this connection arises from the great diversity of the symptoms of multiple sclerosis, of which but few may be present throughout a considerable period of time at the outset. Many patients complain at first of weakness in the lower extremities or on one side of the body or in one member; in others, tremor appears early; and, in still others, ocular symptoms may be the initial manifestation. The motor symptoms, as a rule, are transitory and are often associated with sensory phenomena. Vomiting may occur in the form of a crisis. Not rarely the sphincters are involved. In women, menorrhagia has been observed in some instances. Tinnitus aurium has also been noted occasionally and it may appear early; aphonia likewise may occur as an early symptom.

The diagnosis of multiple sclerosis is easy enough in the presence of the classical symptoms, namely, intention tremor, scanning speech, nystagmus, spastic gait, and increased knee-jerks, but often the clinical group-

1. Lancet, Feb. 18, 1905, p. 411.

ing is incomplete. Especially the transitory character of the symptoms and their sudden appearance and disappearance are suggestive of hysteria and only the further course of the disease will at times clear up the doubt. In many instances, moreover, the patient is emotional, is readily moved to tears or to laughter, and the voice has a tremulous character. A symptom of profound differential significance is the toe phenomenon of Babinski, which is probably never present in the absence of organic disease of the nervous system.

Even anatomically there may be doubt as to the condition present, for cases have been placed on record in which during life symptoms of multiple sclerosis have been present, while after death only induration of the brain and cord have been appreciable macroscopically, although an increase of neuroglia tissue has been detected microscopically. One must be exceedingly cautious, therefore, in making a diagnosis of hysteria, when one or more symptoms of insular sclerosis are present.

SYPHILOPHOBIA.

One of the important factors in the reduction of the mortality from tuberculosis has undoubtedly been the gradual obliteration of the conviction that used to be so prevalent, that this disease is incurable. As the result of the persuasion that cure is not only possible, but even probable, if the affection is seen in time, many a tuberculous patient has taken heart and by auto-suggestion has helped on his treatment very materially. There is at least one other of the infectious granulomata in which a corresponding hopefulness in the therapeutics of the disease would do much to lessen the severity of the symptoms and undoubtedly would help to prevent the occurrence of some of the more serious sequelæ. Professor Fournier of Paris, certainly an authority on syphilis, has recently declared that sufferers from this disease who have their initial lesion on the finger are more likely to suffer from severe general symptoms than are those whose affection begins with a genital chancre. Other observers have called attention to the same fact. Fournier explains it by saying that those who acquire syphilis extra-genitally are often physicians or members of the intelligent classes who know the character of the disease and who are accordingly very much depressed by having acquired it. The lowering of resistive vitality by worry makes the course of the affection much more severe than it would otherwise be.

The same state of affairs has been noted in other ways. For instance, in large cities there is an impression that not a few of those who develop general paresis after syphilis practically worry themselves into their mental affection. For example, a young man, having been told by his physician that he has syphilis, may proclaim at once that he knows that he will surely develop paresis, because he knows of several who acquired syphilis, and who are now under treatment for paresis. The mental strain and nervous tension incident on the ever-haunting presence of the awful phantom of an incurable constitutional disease is likely to undermine his mental and physical makeup.

It is quite probable, however, that the prognosis of syphilis is by no means so bad as the present impression which prevails with regard to it would seem to indicate. According to the best available statistics, probably not more than 10 to 15 per cent. of syphilitic patients ever suffer from visceral complications. There is no doubt, according to the testimony of well-known and conservative specialists, that the severity of syphilis has been very much modified in recent years and that the most hideous tertiary manifestations are now seldom seen. With regard to the nervous system the outlook is even less discouraging. Probably less than 3 per cent. of all syphilitic patients ever have any serious affection of their nerve tissues and less than 1 per cent. suffer from general paralysis or locomotor ataxia.

With regard to the severer forms of nervous syphilis, it has been pointed out that only those who overwork and overworry or who were originally of lowered nervous vitality are likely to be sufferers. With regard to general paralysis particularly, overwork or emotional strain, or alcoholism, or sexual excess is the immediate factor in almost every case. Under these circumstances it would seem that there is need of a reaction of sentiment that will make the awful possibilities of syphilis somewhat less likely to interfere with nature's curative efforts than is at present the case. While the moral influence of the possibilities of the affection and the deterrent virtues of proper knowledge will not be lessened, at the same time the exaggeration that may so easily do serious harm should be eradicated so as to give resistive vitality its proper opportunity. After all, there are not a few competent syphilographers who consider that they have seen cases of second infection with syphilis; that is, that from ten to twenty years after an undoubted first attack of the disease and immediately following a prolonged period of cessation of all symptoms, they have seen a second initial lesion followed by all the usual symptoms of renewed secondary syphilis. This would seem to indicate that the first attack of the disease had been overcome and that the immunity produced by it had disappeared, demonstrating the curability of syphilis in certain cases.

THE TREATMENT OF PLEURAL EFFUSION BY PARACENTESIS.

Under ordinary conditions the pleural cavity, representing an enormous lymph sac, contains only a small amount of fluid, which escapes from the blood vessels and is carried off by the lymphatics. If for any reason, such as vascular or circulatory insufficiency, a greater amount escapes from the blood vessels, or, as in the case

of inflammation of the pleura, a lesser amount is taken up by the lymphatics, fluid will accumulate in the cavity. The mere presence of a considerable amount of fluid tends to obstruct its circulation. The movement of the fluid is largely dependent on the activity of the lungs and is, therefore, lessened when pulmonary expansion is interfered with from any cause. Under the conditions stated paracentesis becomes necessary in order that the function of the several structures shall be resumed.

The indications for this procedure are discussed at some length in a recent paper by Dr. Samuel West.[1] When the pleural cavity is filled with fluid and the respiratory movements are abolished, paracentesis should be performed without delay, while a small effusion should be tapped if it has existed for some time and exhibits no tendency to disappear. Immediate paracentesis is indicated when, in consequence of failure on the part of the heart and the lungs, dyspnea sets in suddenly, without premonition, and rapidly becomes urgent, so that suffocation appears imminent.

In the opinion of Dr. West, siphonage constitutes the best means of evacuating a pleural effusion. For this purpose an ordinary trocar and canula, connected with an India-rubber tube reaching to the floor, can be employed. The free end of the tube should be immersed in sterile water to avoid aspiration of air. The negative pressure thus established is sufficient to permit the escape of as much fluid as can be safely removed. Dr. West considers the use of the aspirator unnecessary and attended with risk. Paracentesis may be repeated if the fluid reaccumulates, but after a time some more radical procedure will be required. Free incision of the chest is rarely indicated. It necessarily leads to empyema, but this may be more readily cured than the recurrent serous effusion. The operation should be performed only when the lung is free from adhesion and capable of expanding readily.

In the presence of empyema the pus should be evacuated without delay. Ordinarily, incision and drainage will be required, but occasionally paracentesis by means of an aspirator will suffice, at least temporarily. In making the incision a needle should first be introduced and if pus be found the needle should be used as a director. Generally, the preferable site for incision is just in front of the postaxillary border on a level with the nipple. Resection of a rib should be practiced only when necessary to provide free drainage. An oval opening may be made between the ribs, and two small drainage tubes introduced. When the pus is curdy, flaky or offensive, or if it contains blood clots, recovery will be greatly accelerated by irrigation.

In the presence of pneumothorax tapping may be indicated immediately after the development of the condition or after effusion has taken place. The apparatus used for siphonage is usually sufficient for this purpose. If repeated paracentesis fails to afford relief, free incision may be practiced under these conditions also.

1. Lancet, March 25, 1905, p. 787.

THE SENATE PLOT AGAINST PURE FOOD.

In a paper in May *World's Work* entitled "The Senate Plot Against Pure Food," Edward Lowry says: "A pure-food law will be introduced immediately after the opening of the next session of Congress, and its friends will put aside all other legislative business until their pet project has come to a decisive vote." In addition, he presents facts to spur us to every effort to see that there are enough votes to pass the bill. Opposed to the bill in the Senate were Aldrich and Wetmore of Rhode Island, Hale and Frye of Maine, Kean of New Jersey, Penrose of Pennsylvania, and some southern senators. The Illinois and Michigan senators straddled. Mr. Lowry gives some explanations of the action of the opposing senators, and one anecdote we must quote in full:

"One afternoon at a hearing before a committee of the national House of Representatives a man in the rear of the crowded chamber came forward and asked to be allowed to speak on the bill under consideration. Apparently, none of the lawyers or representatives of manufacturers who were present knew him.

"'Whom do you represent?' asked the chairman of the committee.

"'The people,' was the unexpected response.

"'What people?' asked the chairman, incredulously.

"'The people of the United States.'

"The congressmen burst into open laughter.

"'I am sorry that we can't spare you any time,' began the chairman, curtly. 'We have a number of gentlemen here representing special interests affected by this bill, and we must devote what time we have to them.'"

The medical profession is not a "special interest" by any means, but the next Congress will find that medical men are especially interested in the attitude of every senator and representative toward the pure-food movement. See your senator and congressman this summer and plainly state that you expect them to vote for pure food. The "special interests" are active every minute and they have great resources and much influence. The field staff of our campaign is ready and equipped for the fray. It merely remains for each one of us in the ranks to do his duty.

SMOKE.

The crusade against unnecessary city smoke is more social than medical, and yet has a real interest for physicians. The direct harmfulness of smoke to the human organism is not wholly clear. It is certain, however, that smoke and other products of soft coal combustion vitiate the atmosphere and constitute an influence genuinely depressing to the organism. The skin and mucous membranes suffer and, in children especially, there is deficient oxygenation with anemia. To maintain the best health, city-dwellers seek for a time each year the soot-free air of the country. All forms of life, man included, are dependent on the sun's rays for their greatest activities. In the city whose sunshine is much of the time absorbed by a fall of coal smoke, child life is under average, and the children who can not for a time get out to the sunlit open country tend to be pale and flabby. In its economic aspect smoke annually causes great loss, and this feature of the nuisance enables the sanitarian to appeal for assistance to the commercial in-

terests in efforts to give our cities clear atmosphere. In an address[1] before the Woman's Club of Cincinnati, Dr. Charles A. L. Reed, chairman of the Committee on Medical Legislation of the American Medical Association, effectively turns to a new and powerful source of aid in the antismoke campaign—the women. Smoke-filled air imposes extra and unnecessary drudgery on the housekeeper. Woman's privilege to wear clean clothing is ruthlessly disregarded by the makers of smoke and the permitting municipalities. Reed urged women, individually and through their organizations, to protest vigorously against present conditions. Moral dirt also is close kin to physical dirt, and a clean community has the better chance to avoid degeneracy. The ill conditions are national and not local, so that something more than local effort is needed to combat them. Therefore, he proposes co-operation, national in extent, to create public sentiment, to determine the facts and adjust conflicting interests, to demonstrate plans and appliances for smoke prevention, and to formulate a standard law to secure uniform regulation of the evil all over the country. Promising the co-operation of the American Medical Association, he suggested a "national antismoke convention" to execute these plans, this convention to be really representative of all concerned interests and to be instructed by competent specialists, engineers, physicians, sanitarians, manufacturers, attorneys, and others. The assistance of the press must be secured. The suggestion appears feasible, and it is to be hoped that it will be carried out.

INTERURBAN CLINICAL CLUBS.

Dr. Osler's suggestion[2] in regard to the formation of interurban clinical clubs in different sections of the country undoubtedly receives the hearty approval of the progressive teachers and clinicians. It is self-evident that sincere, thorough work of the kind suggested will help to promote interest in the teaching and investigation of internal medicine. Certain changes, more particularly by the way of additions, should be made in the grouping suggested by Dr. Osler. Of course, Ann Arbor must not be omitted. Detroit and Milwaukee should be considered. Places like Iowa City, in which some effort has been made to build up good clinical work on permanent and adequate basis, should not be forgotten. The men in small, isolated places of this kind, in particular, need the education and stimulus of the clinical club. In the Middle West many state universities have established or are establishing medical departments which are bound to stay, no matter whether the university is located in a small town or in a large city. These departments are entrusted with great responsibility in the matter of teaching medical students, and there is great need for all influences that tend to raise the quality of their teaching, and especially, we believe, of the teaching of clinical medicine. Therefore it is hoped, if Dr. Osler's suggestion takes practical form, that great care be used to secure, by wise grouping, the greatest possible influence on medical teaching and investigation.

1. American Medicine, April 29, 1905, p. 703.
2. Correspondence department, this issue.

THE WAYS OF THE ANTIVACCINATIONISTS.

Antivaccination methods are shown up in a recent communication of Dr. R. N. Willson, Jr., to the Philadelphia *Public Ledger*. It appears that the secretary of the Constitutional League of the United States, apparently an antivaccination society, has been sending out circulars, one of which is made up in part of extracts from articles by Dr. Willson.[1] These extracts, however, are so selected and arranged as completely to misstate the author's ideas and to represent him as an opponent to vaccination. Such passages as would give the real opinions and direct statements of Willson's views on the subject and his conclusions from his studies are carefully omitted, and the whole article is therefore practically a forgery, as attributing views to the person quoted which are exactly the opposite of those held by him. Antivaccinationists, like zoophilists and other *soi disant* philanthropists, while claiming to be actuated by the highest motives, appear to have very little regard for truth and common honesty, as in this example thus exposed by Willson. Lacking decent arguments for their cause, they appear to think any kind of method justified. The kind of literature they favor is well represented by the circular complained of by Dr. Willson.

PREMENSTRUAL PREGNANCY.

It is generally admitted that ovulation and menstruation, while coincidental, are not interdependent, the former, in fact, occurring periodically for some time prior to puberty, while the latter constitutes the final sign of sexual maturity. Accordingly, impregnation may take place before the advent of menstruation, and instances of this character, while unusual, can not be considered as extraordinary. Dr. A. W. Addinsell[2] reports that a 13-year-old girl was delivered of a 7-month's still-born child, although she had never menstruated or previously had presented any other outward sign of sexual maturity. He also refers to the case of a girl who gave birth to a child at the age of 9 years and to similar cases in girls of 11¾, 12 and 12½ years, but who had previously menstruated. He further calls attention to the fact that maternity before the advent of menstruation is not uncommon in Central Africa and in certain districts in India. Dr. Addinsell compares menstruation to a pathologic process, and he believes it probable that primitive woman never menstruated, at any rate not as menstruation is understood to-day.

AUTO CASUALTIES.

The automobile is becoming an important element in our civilization. The record of accidents from its use is becoming appalling. Since January 1 there are said to have occurred in New York City and vicinity no less than seven hundred and ninety-three automobile casualties, sixty-two of them fatal and over sixty more rendering their victims cripples for life. If this can happen in one city it is not pleasant to think of the possibilities for the whole country. We do not vouch for

1. American Medicine, Dec. 7, 1901, and THE JOURNAL A. M. A., May 3 and 10, 1902.
2. London Lancet, March 25, p. 791.

the figures—which would seem to justify a popular uprising—but, even if exaggerated many fold, they demand action. Much of this record, if not all of it, may be credited to high-speed automobiling, and there seems to be a tendency among chauffeurs, unconsciously it may be in some cases, to take excessive risks in this particular way. Many who are arrested for going beyond the speed established by law indignantly claim, but with apparent sincerity, that they have kept well within the limits, though the facts are all against them. The newspapers have spoken of a sort of automobilimania or speed intoxication to which automobilists are specially liable. Whether such exists or not, it is certain that men supposed to be honorable citizens in other respects are all the while imperiling the lives of their fellowmen, to say nothing of their own, by reckless speeding on the public highways, and this apparently without any conscience or scruples. One New York millionaire is reported to have thirteen accidents to his credit, two of them fatal and nine causing permanent injury. As physicians are beginning to use automobiles very largely, we hope and trust that our profession will keep its record clean in this matter.

THE TENDERFOOT EXODUS FROM PANAMA.

Some of the newspapers are rather hard on the considerable number of clerks and others who went to Panama without due consideration of the conditions and who have fled from the isthmus because of the recent scare from the yellow-fever situation. One paper, noting the complaints of the "tenderfoot" clerks, remarks that they offer no real facts that were not known before and entirely accessible; for example, they found that the region of the equator is hot—naturally—one of the things they should have realized before they went. That these men would soon find that work at the isthmus is not a sinecure at a watering place was to be expected, as we mentioned in these columns not long ago. Their charges of mismanagement, however, should be investigated, as conditions on the isthmus need all possible amelioration. Even if all employes could be men who had been seasoned by previous work in the tropics, they need every possible protection. The report of Colonel Gorgas shows that already an enormous reduction in mortality and morbidity rates has been effected in spite of the many hindrances to effective work in the beginning, which have been mentioned. The yellow-fever scare will weed out the adventurers and those who thought they were entering on an easy political job. It will also spur the officials to use every possible precaution to protect the inhabitants of the canal zone.

THE PATENT MEDICINE EVIL.

Elsewhere in this issue we print a communication from Mr. Bok, editor of the *Ladies' Home Journal*, which is both an indictment of and an appeal to the medical profession. The criticism is a just one. No one knows better than the physician the wreckage caused by the indiscriminate use of patent medicines, and it naturally follows that the profession should take the lead in the fight against them. And in reality it has done so, —although individually and spasmodically it is true—but with what result? Opposition on the part of newspapers, some of which could not exist if it were not for the patent medicine advertisements, and on the part of the "vested interests" affected. And the main answer to the charges made by physicians was that they were based on selfish motives, that patent medicines cured those who would otherwise go to physicians, and consequently the income of the latter suffered. It has been useless to say—what is a fact—that the use of patent medicines is detrimental to the health of the people, and increases, not decreases, the number of those who have to consult physicians. Of course such opposition was to be expected, but most of the few who took up the fight in the past soon became discouraged and gave up, instead of determinedly sticking to it, realizing that every reformer's path is full of thorns. Mr. Bok has made the alcohol question the basis of his crusade, but physicians know that this is only one of the evils. The intemperance that results is insignificant compared with the other physical injuries that develop from the indiscriminate and ignorant use of potent drugs. It is certainly encouraging that a layman has now taken up the matter in the practical co-operative manner which is suggested, and we can assure Mr. Bok that physicians everywhere stand ready to aid him by deed as well as by word.

Medical News

ILLINOIS.

Thousands for Hospitals.—The hospital bazaar held at Aurora will net at least $6,000 for the institutions which are to be beneficiaries.

Feud.—Dr. Wesselius Davis, Wapella, who had had trouble with Truman Mason for a long time, was shot in the back by Mason and seriously wounded, May 11. Mason thereon shot himself through the heart.

Chicago.

Deaths of the Week.—For the week ended May 13, the mortality was at the annual rate of 11.79 per 1,000. There were 450 deaths, of which 62 each were due to consumption and pneumonia; 49 to heart diseases; 42 to Bright's disease, and 36 to violence.

Smallpox.—During the week ended May 13, 33 smallpox patients were removed to the Isolation Hospital, and one death occurred. On May 16 there were 85 patients at the hospital. Of the new patients not one had been revaccinated, and 20 had never been vaccinated. There were school children in attendance on false certificates of vaccination, and 5 were children under school age.

A Notable Reduction.—The reduction of the death rate for the last 20 years is shown graphically by the Bulletin of the Health Department. For the first decade, 1885 to 1894, the death rate at all ages was 20.2 per 1,000; for the second decade, 1895 to 1904, the death rate was 15.1 per 1,000, a reduction of 25.3 per cent. The reduction of the death rate for children under five years of age is still more striking: For the first decade the death rate per 1,000 was 9.5 per 1,000; for the second decade, 5.1 per 1,000, a reduction of 46.3 per cent.

INDIANA.

Unlicensed Practitioner Fined.—A. A. Bancroft, an employe of a patent medicine company, was fined $25 and costs at Indianapolis, for practicing medicine without a license. He claimed that he was acting simply as a "demonstrator."

Made Sick by Tuberculous Milk.—A family in Noblesville complained that the milk from their new cow made them sick. Pus and tubercle bacilli were found in the milk and subsequently local tubercle lesions were found in the cow's bag.

State Board Appointments.—Dr. T. Henry Davis, Richmond, was elected president of the State Board of Health for two years, from March 1, at the meeting of the board held April 20. This is Dr. Davis' second term, he having been president in 1900 and 1901. Dr. Frederick A. Tucker, Noblesville, was appointed, April 14, a member of the State Board of Health, to succeed Dr. Clark Cook, Fowler.——Dr. John C. Webster, Lafayette, has been reappointed a member of the State Board of Medical Registration and Examination, for four years, from April 23.

Personal.—Dr. Ira E. Dunlavy, deputy coroner of Marion County, has resigned and has been succeeded by Dr. John F. Robertson, Indianapolis.——Dr. Edmund Van Buskirk, Fort Wayne, has been appointed secretary of the Allen County Board of Health, vice Dr. Carl Proegler.——Dr. Albert H. Combs has been made a member of the Marion Board of Health.——Dr. Reginald W. Garstang, Indianapolis, received injuries to the head and hip while endeavoring to control a fractious horse, April 19.——Dr. Urban A. Lyle, Lafayette, has resigned from the Tippecanoe County Medical Society.——Dr. Sherman B. Hitt has been appointed a member of the Greensburg Board of Health.——Dr. John I. Metts, Ossian, had a second cerebral hemorrhage, May 4.——Dr. Theodore Potter, Indianapolis, has been appointed a member of the commission to investigate the need of a hospital for the treatment of tuberculosis in Indiana.

Many New Doctors.—The thirty-fifth annual commencement exercises of the Medical College of Indiana, Indianapolis, were held, April 19, when a class of 78 was graduated. Dr. Stanley Coulter of Purdue University delivered the principal address on "The Foundation of Specialism," and President Addison C. Harris of the University of Indianapolis conferred the degrees. ——Degrees were conferred on 26 graduates at the twenty-sixth annual commencement exercises of the Central College of Physicians and Surgeons, Indianapolis, April 20. Dr. George D. Kahlo, dean of the college, presided and made the opening address, and President William P. Kane of Wabash College delivered the annual address.——A class of 13 was graduated from the Fort Wayne College of Medicine, April 18, on the occasion of the twenty-sixth annual commencement of the institution. Dr. Charles B. Stemen, dean of the college, presided; Rev. Leroy Belt, D.D., president of Ohio Northern University, conferred the degrees, and the annual address was delivered by Rev. A. S. Preston.

Disease and Death in March.—The most prevalent disease in the month was influenza. In the corresponding month last year pneumonia was the most prevalent, whereas this month it stands fifth. Rheumatism stands second, followed by tonsillitis, bronchitis, pneumonia, scarlet fever, diarrhea, typhoid fever, smallpox, diphtheria, puerperal fever, whooping cough, and measles, in the order named. There were 251 cases of smallpox reported from 29 counties, with one death. In the corresponding month last year there were 231 cases in 41 counties, with three deaths. There were 197 cases of typhoid fever, with 30 deaths, in 37 counties. In the corresponding month of last year there were 288 cases, with 55 deaths, in 40 counties. Tuberculosis caused 476 deaths, 173 males and 303 females. The disease is slowly increasing, and yet the people are not interested in the great economy of stopping this preventable disease. Pneumonia caused 599 deaths. In the corresponding month last year there were 758 deaths from pneumonia. Accidents caused 149 deaths. There were 2 murders, 35 suicides, the remainder of the violence deaths being accidents. Of the suicides, 10 men chose shooting; 3, hanging; 3, carbolic acid, and 3, morphin. Of the female suicides, 1 chose hanging; 3, carbolic acid; 1, morphin, and 3, other poisons. Railroad accidents caused 27 deaths, street cars and interurbans 2, and burns and scalds 8. Fractures of the skull and of the bone caused 12 deaths; gunshot wounds, 6; electricity, 2; dynamite, 2; poisons, 3; coal mine, 9, and drowning, 4. The total number of deaths was 3,656, equivalent to an annual rate of 16.2 per 1,000. In the corresponding month last year the number was 3,860, the rate 18.1 per 1,000. Of the deaths 580, or 16 per cent., were of children under one year of age, and 1,028, or 28 per cent., were 65 years and over. We, therefore, have to credit extremes of life with 48 per cent. of all deaths. Consumption caused 476 deaths; typhoid fever, 30; diphtheria, 25; scarlet fever, 16; whooping cough, 15; pneumonia, 599; cerebrospinal meningitis, 45; influenza, 145; puerperal fever, 12; cancer, 107, and smallpox, 1. The city death rate was 18 per 1,000, and the country death rate 15.2. The following city death rates per 1,000 are noted: Indianapolis, 17.6; Evansville, 14.5; Ft. Wayne, 17.3; South Bend, 19.8; Terre Haute, 23.7; Anderson, 12.3; Muncie, 16; Richmond, 17.5, and Vincennes, 21.8.

IOWA.

Revoke License.—The State Board of Medical Examiners has revoked the certificate of Dr. Anthony R. White, Clearfield, charged with immorality with young boys.

New Wing of Hospital Wrecked.—By the collapse of two weak trusses, April 27, the east wing of the new building of the Clarinda State Hospital was totally wrecked. No one was killed nor seriously injured, but the loss is about $30,000.

Purse to Superintendent.—Dr. Fred C. Brechan, formerly superintendent of the Samaritan Hospital, Sioux City, who has been obliged to go to Arizona on account of rapidly-progressing tuberculosis, was presented with a purse of $600, by his professional brethren, April 21. Dr. J. A. Thomson is his successor.

Abortionist Sentenced.—Dr. J. W. Crofford, Lamoni, convicted of murder in the second degree for the death of Miss Maud Stone, following a criminal operation in his "sanitarium," has been sentenced to 12 years' imprisonment in the State Penitentiary, Fort Madison. The case has been appealed and Dr. Crofford is at liberty on $12,500 bail.

Graduating Exercises.—Keokuk Medical College, College of Physicians and Surgeons, held its sixty-fourth annual commencement exercises, April 25, at which a class of 51 received diplomas from Dr. George F. Jenkins, president of the institution. Dr. Henry E. W. Barnes, Creston, delivered the annual address.——A class of 14 was graduated from the Sioux City College of Medicine May 3. The doctorate address was delivered by Dr. H. G. Campbell, and Dr. John H. Warren conferred the degrees.

Alumni Meet.—The Alumni Association of the University of Iowa College of Medicine, Iowa City, was organized, May 3, and the following officers were elected: President, Dr. David C. Brockman, Ottumwa; vice-presidents, Drs. William L. Allen, Davenport, and Charles E. Ruth, Keokuk; secretary, Dr. Charles S. Chase, Waterloo; treasurer, Dr. Mamie A. Coveny, Clinton. A clinic was held for two days, and a memorial bust of the late dean of the college, Dr. William D. Middleton, Davenport, and a portrait of the late Dr. John W. Harriman, instructor in anatomy, were presented to the college with impressive ceremonies.

Personal.—Dr. Richard C. Sebern has been elected health officer of Odebolt.——Dr. Ray H. Dean, Muscatine, has returned after a year in Vienna.——Dr. Nathan W. Getz has been elected city physician of Marshalltown.——Dr. Harry F. Thompson has succeeded Dr. Hans E. Eiel as health officer of Buffalo Center.——Dr. and Mrs. Alexis M. Warren, Sioux City, have returned from Europe.——Dr. Fred L. Appel, Muscatine, has been appointed coroner of Muscatine County.——Dr. Charles L. Barewald, Buffalo, has been reappointed physician of Scott County.——Dr. James W. Wherry, for many years assistant physician at the Clarinda State Hospital, has been appointed medical superintendent of the Glenwood Hospital for Epileptics, Dansville, N. Y.——Dr. Harvey G. Hieber, Cedar Falls, has sailed for Europe.——Dr. E. L. W. Brown, Lenox, has been appointed to the medical staff of the Panama Canal Commission, and has started for Panama.——Dr. Emma A. Perrine, Des Moines, will go to China as a medical missionary, leaving July 1.

KENTUCKY.

Hospital Opened.—The Jewish Free Hospital, Louisville, erected and equipped at a cost of nearly $50,000, opened its doors to receive patients May 15.

License Fee Not Increased.—As a result of united protest from the physicians of Owensboro, the city council decided not to increase the annual license fee for physicians, which remains at five dollars.

Acquitted.—Dr. Robert N. Whitehead, Fulton, charged with involuntary manslaughter, was found not guilty.——Dr. John F. Boyd, Paducah, charged with failing to report a case of smallpox, was acquitted.

Commencements.—On April 28, a class of 50 received diplomas from the University of Louisville Medical Department.——Louisville Medical College graduated a class of 40, April 11. Rev. William Wisten Hamilton delivered the annual address.——At the eighteenth annual commencement exercises of the Louisville National Medical College, May 5, an address was delivered by Dr. Dudley S. Reynolds and a class of 6 was graduated.

Personal.—Dr. William M. Ewing, Cave City, was thrown from his buggy recently and severely injured.——Dr. James R. Paine, Pembroke, has been appointed a member of the

board of commissioners of the Western Kentucky Asylum for the Insane, Hopkinsville.——Dr. John F. Boyd has been elected a member of the board of trustees of Riverside Hospital, Paducah.——Dr. Charles H. Brothers has resigned from the Paducah Board of Health.——Dr. James W. Guest, Louisville, has been appointed medical director of the Commonwealth Life Insurance Company.

LOUISIANA.

Pesthouse Burned.—The Baton Rouge Isolation Hospital was burned to the ground, April 21. The two inmates were rescued by the police. The loss is $500, with no insurance.

Personal.—The salary of Dr. James M. Batchelor, house surgeon of Charity Hospital, New Orleans, has been increased from $3,000 to $4,000.——Dr. King Holt has been elected city physician of Baton Rouge, vice Dr. John C. Allen, deceased.

Tulane Commencement.—The seventy-first annual commencement exercises of Tulane University of Louisiana Medical Department, New Orleans, were held May 3, when a class of 83 was graduated. Early local medical history was the subject of the annual address delivered by Prof. Alen Fortier. Dr. Stanford E. Chaillé made the annual report and President E. B. Craighead conferred the degrees.

To Be Given Loving Cup.—The *Picayune* loving cup committee, appointed by the board of directors of the New Orleans Progressive Union, has agreed on Dr. Arthur W. DeRoaldes as the recipient of the *Picayune* loving cup, tendered by the *New Orleans Picayune* annually to that citizen of New Orleans who shall be deemed to have performed the most meritorious service in the interest of the whole citizenship during the year 1904. This decision was reached by the committee because of the labors of Dr. DeRoaldes in fostering the Eye, Ear, Nose and Throat Hospital, and in giving his time, energy and strength to the upbuilding of that institution.

MARYLAND.

Smallpox Hospital.—Washington County Commissioners will build a smallpox hospital and Dr. Theodore Boone has been appointed physician.

Annual Banquet.—At the eighth annual banquet of the Baltimore County Medical Association, held May 10, Dr. George H. Hocking presided, and the annual address was made by Dr. Alexander C. Abbott, Philadelphia.

Baltimore.

Personal.—Dr. Henry Barton Jacobs will go abroad till July.——Dr. Richard H. Fallis, resident surgeon at the Johns Hopkins Hospital, has resigned, and will be in Europe from June to October.

Loving Cup to Osler.—At the close of Dr. William Osler's last public clinic at the Johns Hopkins, May 13, a loving cup was presented to him on behalf of the third and fourth year classes by Mr. Allen Weir Foreman of Richmond, Va., a member of the senior class. Dr. Osler was to sail for Europe May 19.

Hospital Report.—The Baltimore Eye, Ear and Throat Hospital reports 5,225 charity and 62 pay patients treated during the year. The aggregate attendance in the dispensary was 28,537. There were 1,261 surgical operations. An appropriation by the legislature of $5,000 and a bequest through the will of Mr. Francis White enabled the trustees to increase the accommodations and facilities of the institution.

Hospital Election.—At the Hebrew Hospital Dr. A. L. Wilkinson has been elected resident physician; Dr. E. A. Rogers, assistant; Dr. J. A. Seligman, dispensary physician, and Dr. J. Rosett, attending dispensary physician.——At the Eastern Dispensary, Dr. Daniel W. Cathell was elected vice-president; Dr. R. S. Kirk re-elected medical superintendent and Dr. John Roth assistant. During the year 24,114 patients were treated.

Alumni Election.—The Alumni Association of the University of Maryland School of Medicine held its annual meeting May 11. Surgeon Howard E. Ames, U. S. N., delivered the address on the Greely Relief Expedition. The following were elected officers: President, Dr. Howard E. Ames, U. S. Navy; vice-presidents, Drs. Charles O'Donovan, William H. Pearce, Baltimore, and C. R. Winterson, Elk Ridge; recording secretary, Dr. Charles E. Sadtler, Baltimore; corresponding secretary, Dr. George H. Hocking, Baltimore, and treasurer, Dr. G. Lane Taneyhill, Baltimore.

Commencements.—Baltimore Medical College held its annual commencement May 11, the governor of Maryland delivering the address. Dr. Charles G. Hill administered the Hippocratic oath. There were 117 graduates. Dr. Charles J. Pflueger of Pennsylvania carried off the college medal and highest honors.——The College of Physicians and Surgeons announces 69 graduates, with M. J. Nestor of Rhode Island first honor man. The commencement was held May 18.——The commencement of the Medical School of the University of Maryland was held May 13, there being 83 graduates. The highest honors (University gold medal) in medicine were taken by Roscoe Conkling Metzel.

MASSACHUSETTS.

Bequest.—By the will of the late Col. J. D. Drew, Lawrence General Hospital receives a bequest of $1,000 in memory of his wife.

Will Furnish Rooms.—The Brockton Hospital authorities have already received offers to furnish nine rooms in the new Wales ward.

New Navy Yard Hospital.—The Charleston Navy Yard has a new medical department nearly ready to occupy. It takes the place of offices which have been in use over a hundred years. A large central building, two stories high, with three one-story, glass-roofed wings and an operating room in the rear, makes quarters said to be the finest in the country in many respects.

Pure Food Laboratory.—A pure food laboratory, with at least two chemists and two clerks, will be opened in Boston about July 1, under the direction of the United States Department of Agriculture, of whose bureau of chemistry Dr. Harvey W. Wiley is chief. The object is to secure more prompt analysis of imported foods than is possible at present, when suspected samples must be sent to Washington.

Lederle on School Inspection.—Dr. Ernest J. Lederle, formerly Health Commissioner of New York City, spoke before the Twentieth Century Club of Boston, May 8, on the successful employment of nurses in the public schools of that city, to co-operate with medical school inspectors. At the same meeting Dr. Samuel H. Durgin strongly favored the introduction of nurses in Boston as a very important aid in preventing and restricting the spread of contagious disease.

MICHIGAN.

New Physicians.—Detroit College of Medicine graduated a class of 54, May 5. Prof. Clarence A. Lightner delivered the address to the class; Sidney T. Miller, president of the board of trustees, conferred the degrees, and Rev. F. J. Van Antwerp made the closing address.——A class of three was graduated from the Grand Rapids Medical College, May 3. Dr. William Fuller distributed the diplomas.

Personal.—Dr. Oscar C. Breitenbach has been reappointed health officer of Escanaba.——Dr. Edwin D. Merritt has been appointed health officer of Oscoda village and township.——Dr. Humphrey D. Robinson has been elected health officer of Manistee.——Dr. Wilfred S. Picotte, Ishpeming, was operated on in Montreal, May 1, for appendicitis, and is making good progress toward recovery.——Dr. Theodore Schmalzriedt, Woodmere, has been reappointed health officer of Springwells township.——Dr. Theophilas I. Langlois has succeeded Dr. Walter C. Lambert as health officer of Wyandotte.

Wealth Left to Charities.—By the will of Mrs. Mary Stockdale, Flint, she devises the bulk of her estate to Harper Hospital, Detroit; Protestant Orphan Asylum, Detroit; Woman's Hospital and Foundling's Home, Detroit; House of Providence, Detroit; St. Mary's Hospital, Detroit; Thompson Home for Old Ladies, Detroit; Buffalo (N. Y.) General Hospital and Ingleside Home for Erring and Fallen Women, Buffalo. It is estimated that each of these institutions will receive more than $30,000.

Health Conference.—The eighth general conference of health officials of Michigan will be held in Ann Arbor, June 1 and 2. The objects of the conference are: The presentation of facts and the general comparison of views by the health officers and other delegates of local boards of health, among themselves, with the members of the State Board of Health and with those in charge of the State Laboratory of Hygiene, and especially with reference to the duties of supervisors and other presidents of local boards of health, health officers and other officials, relative to the restriction of dangerous communicable diseases and other subjects bearing directly on the public health service of the state.

April Mortality.—The total number of deaths for the month of April was 3,022, a decrease of 345 from the number returned for March. The annual death rate was only 14.4 per 1,000 population, as compared with 15.5 for March and 15.7 for

April, 1904. There were 432 deaths of infants under 1 year of age; 171 deaths of children aged 1 to 4 years, inclusive, and 934 deaths of elderly persons over 65 years. A marked diminution appears in the deaths of infants under 1 year. Important causes of deaths were as follows: Tuberculosis, 277; typhoid fever, 38; diphtheria, 24; scarlet fever, 10; measles, 15; whooping cough, 7; pneumonia, 228; meningitis, 57; influenza, 72; cancer, 140; accidents and violence, 147, and smallpox, 4. A slight increase appears in the mortality from typhoid fever, and a considerable decrease in the number of deaths returned from pneumonia and influenza. Meningitis caused 57 deaths during the month, as compared with 54 for March.

MISSOURI.

College Elects Officers.—Central Medical College, St. Joseph, has elected Dr. Thompson E. Potter, president; Dr. William T. Elam, secretary, and Dr. O. Beverly Campbell, treasurer.

Resign from Fulton Hospital Staff.—Dr. James W. Smith, superintendent of Hospital for the Insane, No. 1, Fulton, and the entire staff of assistant physicians resigned, May 10, to take effect June 13. The assistant physicians are Drs. Z. T. Martin Lathrop, William Bayliss Clarence, and J. F. Harrison, Benton City. The reason given for the resignation of the superintendent is ill health. The assistant physicians resigned so that the board might be free to choose a superintendent and staff satisfactory to all concerned.

Alleged Irregularities in Examination.—Dr. Vilray P. Blair reported at the meeting of the St. Louis Medical Society that a committee of the State Board of Health had investigated the charges made that there had been irregularities in the last examination held by the board for the issuance of licenses to practice medicine in this state, to wit, that there had been wholesale cheating on the part of the candidates. No action was taken by the society because it was stated that the whole matter has already been referred to the governor.

Personal.—Dr. John E. Lopp has succeeded Dr. Gustave Ettmueller as physician of Jefferson City.——Dr. Eugene Carbaugh has succeeded Dr. Walter S. Wheeler as inspector of contagious diseases at Kansas City.——Drs. Marshall A. Smith and Charles Pipkin have been appointed members of the Board of Health of Gallatin.——Dr. Carl A. Jackson has succeeded Dr. Robert P. Waring as health officer of Kansas City.——Dr. L. M. Thompson, superintendent of Missouri Colony for Feeble-Minded and Epileptics, Marshall, has resigned.——Dr. Walter C. Overstreet, Sedalia, sails for Europe next month.——Dr. John M. Langsdale, retiring city physician of Kansas City, was presented with a gold-headed cane by the medical staff, nurses, internes and employes of the City Hospital, April 23.

St. Louis.

Graduating Exercises.—At the annual commencement exercises of the Marion Sims-Beaumont College of Medicine, May 8, a class of 103 was graduated.

Personal.—Dr. Charles J. Orr has been elected treasurer of the St. Louis Medical Society.——Dr. Stanley D. Francis was struck by a street car in East St. Louis, Ill., April 24, and dragged fifty feet, but was not seriously injured.

Transmission of Variola.—A woman died in this city about two weeks ago; her burial certificate gave the cause of death as bronchitis and pulmonary hemorrhage. The body was embalmed and shipped to Indianapolis for burial. Advices from Indianapolis state that the undertaker who took charge of the body there became infected with hemorrhagic smallpox, that a number of people who attended the funeral have taken smallpox, and that about one hundred and fifty persons who were near the body are under quarantine. Since these advices came to St. Louis, the undertaker who embalmed the body here was seized with hemorrhagic smallpox, from which he died. Called to account by the local Board of Health, the attending physician maintained that there were no signs of smallpox in this case. Two women who dressed the body state that there was no eruption, yet the board at Indianapolis claims that when the body was exhumed it showed signs of hemorrhagic smallpox.

NEW YORK.

Personal.—Dr. William J. McKown, Albany, has been appointed assistant surgeon of the Tenth Infantry, N. G., N. Y. ——Dr. Luzerne Coville, Ithaca, was operated on for appendicitis, May 8.

Practiced Without License.—Mrs. Louisa Bauch, Buffalo, was convicted by a Supreme Court jury of practicing medicine without a li[redacted] was once before convicted, but was allowed to go on [redacted]pended sentence. The penalty of her crime is one year's imprisonment and a fine of $250.

To Limit Distribution of Medicine Samples.—Elmira has passed an ordinance which provides that "No person nor persons shall distribute, or cause to be distributed in any private grounds or residences in the city, any free sample of a medicine; nor shall such sample be handed to any person under the age of fourteen years."

Medical Fakers.—Drs. Roswell Park, Ernest Wende and Henry Hopkins recently addressed a body of laymen in Buffalo on "Medical Fakers." Dr. Park gave a historical sketch of the fakers of the past. Dr. Wende spoke of the workings of "Antonius the Boy Wonder," a convicted faker, who has recently served a sentence, and Dr. Hopkins detailed the dangers, including scourges, pestilences, etc., suffered because of the superstitions and false presentations of fakers.

New York City.

Trustees for Roosevelt Hospital.—Governor Higgins has signed a bill providing for the election of two additional trustees for this institution, who are to be native-born citizens and residents of New York City.

Mount Sinai Hospital.—The fifty-second report of this institution shows it to be in a flourishing condition, although further support from the public is needed. Last year the hospital received contributions amounting to over $25,000 and $21,212 in legacies and bequests.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended May 6, 621 cases of measles, with 13 deaths; 414 cases of tuberculosis, with 181 deaths; 334 cases of diphtheria, with 39 deaths; 256 cases of scarlet fever, with 14 deaths; 178 cases of cerebrospinal meningitis, with 111 deaths; 31 cases of typhoid fever, with 10 deaths, and 137 cases of varicella.

Smallpox.—Three cases of smallpox have occurred in a Brooklyn boarding house, and one of the patients was in attendance at a public school. The 500 pupils in this school have been vaccinated and the authorities do not think there is danger of the disease spreading. So far this year there have been only 33 cases of smallpox and 6 deaths in the city, while for the same period of last year there were 82 cases, with 7 deaths.

Oppose Consumption Home.—An application for a temporary injunction restraining the Board of Health of New York from opening a home for tuberculosis patients in Henry Street, Brooklyn, has been made by several residents in that vicinity. Dr. Billings of the board defends his plan on the ground that there are already a number of such homes in Manhattan which do good work and do not in any way endanger the lives of neighbors.

To Better the Milk Supply.—Forty of the largest milk firms have formed an organization which will be known as the Association for the Improvement of the Milk Supply of New York. Its purpose is to assist the Health Department in its efforts to secure a purer milk supply. The association expects to establish a regular system of inspection of the milk farms and to educate farmers. Ex-Commissioner Lederle has been retained as consulting analyst for the organization. This week two dealers have been fined $75 each and six others have been fined lesser amounts.

OHIO.

Bequest to Hospital.—By the will of the late John Linebaugh $5,000 is bequeathed to the Protestant Hospital, Columbus.

Unlicensed Practitioners Punished.—John Hubbard, a "faith doctor" of Waupakoneta, was fined $25 and costs, April 6, for practicing medicine without a license.——"Dr." X. W. Wittman, an itinerant patent medicine vendor, was arrested, April 8, in Lebanon, charged with the illegal practice of medicine, pleaded guilty, was fined $20 and costs, and ordered to leave town.

Personal.—Dr. Harrie B. Martin, Springfield, has sailed for Europe. He will spend a year in Vienna.——Dr. Leo F. Towers, a physio-medical practitioner of Toledo, has been reappointed a member of the State Board of Medical Examination and Registration.——Dr. David W. Meredith, Warsaw, sustained a fracture of the leg and other serious injuries in a runaway accident, April 10.——Dr. Mary Austin, Columbus, has been appointed to the staff of the Ohio Hospital for Epileptics, Gallipolis.——Dr. Jacob B. Shank, West Alexandria, was injured, May 1, in a collision between a wagon he was driving and a traction car.——Dr. Estell H. Rorick, superintendent of the Athens State Hospital, has been elected superintendent of the Ohio Institution for Feeble-Minded, Columbus, vice Dr. Gustavus A. Doren, deceased.——Dr. Massillon

Cassat, Cincinnati, has donated his medical library of 4,000 volumes, valued at $10,000, to the Cincinnati Academy of Medicine.

New Ohio Physicians.—Starling Medical College held its fifty-seventh annual commencement exercises May 6, when a class of 29 received diplomas from P. W. Huntington, president of the board of trustees. Dr. Charles W. Dabney, president of the University of Cincinnati, delivered the address, and Dr. Starling Loving, dean of the college, the charge to the graduating class.——A class of 38 was graduated from the Ohio Medical University, Columbus, May 3. Fred J. Heer, president of the board of trustees, conferred the degrees, Dr. Emory W. Hunt, president of Dennison University delivered the annual address, and Dr. John W. Wright spoke on behalf of the faculty.——Cleveland College of Physicians and Surgeons (Medical Department of Ohio Wesleyan University) held its annual commencement exercises May 3. Prof. Richard T. Stevenson of Ohio Wesleyan University, Delaware, delivered the address of the evening.——Toledo Medical College (Medical Department of the Toledo University), held its annual commencement exercises May 9. Prof. Charles Zeublin of the University of Chicago delivered an address on "Scientific Education"; Dr. William A. Dickey, dean of the college, gave the faculty address, and Dr. Park L. Myers conferred the degrees.

PENNSYLVANIA.

Jail Quarantined for Smallpox.—Blair County Jail, Hollidaysburg, is under the ban of the State Board of Health because smallpox has broken out among the prisoners.

Tribute to Dr. Ulrich.—At the monthly meeting of the Delaware County Medical Society, May 4, resolutions of regret for the death of Dr. William Baggs Ulrich and of respect for his memory were read and adopted.

District Meeting.—A meeting of the physicians of the First Censorial District of the Medical Society of the State of Pennsylvania, comprising the counties of Chester, Delaware and Philadelphia, will be held at the hall of the College of Physicians, corner of Thirteenth and Locust streets, Philadelphia, at 8:30 p. m., May 26. Dr. J. N. McCormack, chairman of the committee on organization of the American Medical Association, will address the meeting on the necessity and advantages of organization.

Injunction Against Physician.—Dr. F. A. McMasters of Ridley Park is restrained from the practice of medicine in that place by an injunction issued by Judge Johnson. This was done at the instance of Dr. Horace Furness Taylor. Dr. Taylor testified to having purchased the good will and practice of Dr. McMasters for the sum of $300, when the latter left to locate in Pittsburg. He later, however, returned two months ago and resumed practice. Dr. McMasters denied that he had sold his good will, and said that Dr. Taylor paid him for being introduced to his patients as a qualified physician.

Philadelphia.

Deaths and Births.—The report from the Division of Vital Statistics for the month of April shows that there were 2,027 deaths and 2,597 births.

Personal.—Dr. Henry C. Shurtleff has returned from a prolonged trip to Mexico, the Pacific Coast, and British Columbia.——Dr. James Sibbald sailed for Europe, May 10.——Dr. Hugo Biffi, director of the Hygienic Laboratory, Lima, Peru, visited Philadelphia, April 28.

Saloonkeeper Held for Crime.—J. E. Casey, a saloonkeeper, was arrested, April 5, charged with performing a criminal operation on a girl 17 years old. At the preliminary hearing the patient was unable to appear, and the accused was committed without bail for a further hearing.

Milk Inspection Report.—The report from the Division of Milk Inspection of the Health Bureau for April shows that 4,643 inspections were made, 117,030 quarts of milk inspected, of which 1,315 quarts were condemned. The department made 113 chemical analyses and 670 microscopic examinations of specimens submitted.

Bacteriologic Laboratory Report.—The report of the bacteriologic laboratory of the Health Bureau shows that 1,789 cultures were examined for diphtheria; 525 specimens of blood were examined for the Widal reaction; 684 specimens of milk were analyzed; 146 specimens of sputum were examined, and 1,372 bottles of antitoxin were distributed. In the chemical laboratory 165 analyses were made.

Medical Inspection for April.—The number of inspections made by the medical inspectors, excluding the schools, numbered 2,894. They ordered 591 fumigations made and examined 68 cases for special diagnosis; made 4,915 visits to the different schools throughout the city, and excluded 715 children from the schools; they secured 109 cultures for diagnosis, made 115 injections of antitoxin, and performed 519 vaccinations.

Health Report.—The total number of deaths recorded for the week ended May 13 was 455. This is a decrease of 36 from the number reported last week, and a decrease of 39 from that of the corresponding period of last year. During the week 155 new cases of typhoid were reported, with 23 deaths, as against 256 new cases and 20 deaths in the preceding week. An inspection of the returns of the new cases shows that 60 per cent. are located in the five wards which receive Delaware River water by direct pumpage. Two wards which receive a supply of filtered water are credited with 7 cases. The total number of cases of contagious disease reported for the week was 240, with 36 deaths, as compared with 342 cases and 32 deaths for the preceding 7 days. The principal causes of death were typhoid fever, 23; consumption, 61; cancer, 19; apoplexy, 19; heart disease, 39; acute respiratory disease, 43; enteritis, 18; and Bright's disease, 50.

WISCONSIN.

Midwife Fined.—Anna Schreiber, a midwife of Milwaukee, was fined $50 and costs, May 6, for violation of the medical practice act in prescribing for an infant which died soon afterward, but the cause of whose death has not yet been determined.

Typhoid Epidemic Over.—The recent outbreak of typhoid fever in Milwaukee, supposed to have been due to infection brought to the intake of the waterworks system by ice from Port Washington, is now believed to be over. There were 140 cases, with 7 deaths.

Giant Cracker Silenced.—A new law, which went into effect May 5 prohibits the manufacture and sale of firecrackers more than five inches in length and five-eighths of an inch in diameter, under a penalty of a fine of not to exceed $100, and imprisonment for not more than six months.

Commencement.—The twelfth annual commencement exercises of the Wisconsin College of Physicians and Surgeons, Milwaukee, were held May 9. A class of 27 received diplomas from Dr. A. Hamilton Levings, president of the institution. Rev. H. H. Jacobs delivered the doctorate address.

Malpractice Suit Fails.—In the case of Robert Finley vs. Dr. Axel E. Hedback, Barron, in which $10,000 damages were asked for the alleged unskillful setting of a broken leg, the judge took the case from the jury, after hearing the evidence, and dismissed the case on the ground of no cause for action.

Personal.—Dr. Robert R. Leith has been elected city physician of Appleton and secretary of the local board of health.——Dr. D. Gilbert Hathway, Wauwatosa, was operated on May 9 in Milwaukee.——Dr. F. B. Hicks has succeeded Dr. H. G. Lampson as health officer of Washburn.——Dr. Ernst S. Schmidt has been elected city physician of Oshkosh.——Dr. and Mrs. J. Willis Rockwell, Centralia, were seriously injured in a runaway accident, April 15.——Dr. Max Staehle has been re-elected health officer of Manitowoc.——Dr. J. Burrows Atwood has been elected health officer of Oconto.——Dr. Thomas H. McCarthy has been elected health commissioner of Janesville.——Dr. Henry A. Norden has been elected city physician of Sturgeon Bay.——Dr. Joseph S. Cutler, Wauwatosa, has gone to Chicago to be operated on for appendicitis.——Dr. John F. Farr has been re-elected city physician of Eau Claire.

GENERAL.

Banquet to Dr. Emmet.—A banquet will be given in New York City, May 29, to Dr. Thomas Addis Emmet of New York City, in celebration of his seventy-seventh birthday anniversary. Dr. E. C. Dudley, Chicago, will be toastmaster.

Manila Medical Society Appropriates One Hundred Dollars for the Reed Memorial Fund.—At the regular monthly meeting of the Manila Medical Society, held April 3, $100 was appropriated for the Reed Memorial Fund. Most of this was subscribed by individual members, and the full amount was made up from the fund of the society. The society is in a very flourishing condition, and at the meeting referred to eight new members were added to the list. Of these, judging from their names, four were native physicians.

Health Report of the Philippine Islands.—The Health Report of the Philippine Islands for December, 1904, states that there were 708 births registered during the month. There were 915 deaths during December; of these 894 were residents and 121 were transients. By studying the comparative mortality of the entire year, it is observed that the months of

February and March were the most favorable, with a mortality of 40.59 and 40.23, respectively, the lowest death rates registered during the year. On the other hand, August, September and October show the highest, the mortality reaching 55.28, 58.89 and 54.53. January and December had almost the same death rate—42.64 and 42.53. All the tuberculous patients of the infirmary of Bilibid Prison were transferred to the new hospital for tuberculosis situated on one of the banks of the Pasig River in Calle Marques de Comillas, where they can more properly be taken care of and will have more space and purer atmosphere. The Woman's Hospital, established in one of the buildings of San Lazaro, was transferred to Calle Alix, in the district of Sampaloc, and the rooms which were formerly occupied by this class of patients were fitted to accommodate insane patients, who for lack of room could not be admitted in the quarters provided for them in the Hospicio de San Josè.

Veto of Osteopathic Bill.—The profession of Pennsylvania labored hard to defeat the osteopath bill, but it was passed by the legislature. Their efforts were rewarded, however, by the governor's vetoing the bill, as commented on in THE JOURNAL last week. At the meeting of the Philadelphia County Medical Society, May 10, the committee on medical legislation brought a written report of their labor. Two bills were before the legislature. The Hoke bill, which consisted of amendments to the law of 1893, was supported by the committee and passed both houses by an almost unanimous vote, but the governor vetoed the bill, on account of some technical inaccuracies. The other, the osteopathic bill, was defeated twice in the house, but because of strong political efforts was finally passed. The senate passed it on original and final readings. This brought the bill before the governor for his signature or veto. The committee met the governor and was assisted by the representatives of the homeopathic medical societies. The discussion on the bill lasted three hours. Governor Pennypacker later vetoed this bill in the following language:

"I file, herewith, in the office of the Secretary of the Commonwealth, with my objections, Senate Bill No. 115, entitled: 'An Act to regulate the practice of and licensing of osteopaths in the State of Pennsylvania, the establishmeent of a board of osteopathic examiners representing the Pennsylvania Osteopathic Association and providing for the punishment of persons violating the provisions of this act.'

"The purpose of this bill is to establish a state board of osteopathic examiners, to consist of five members to be appointed by the governor. This board is directed to issue certificates of qualification to practice osteopathy to all applicants having a diploma from a legally recognized and regularly incorporated college of osteopathy. It further provides that licenses shall be issued to all persons who have practiced osteopathy in the state for four years prior to July 1, 1905, and to such persons as now legally hold a diploma from a reputable and legally conducted college of osteopathy. It further provides that the applicants after July 1, 1905, shall have attended for at least three separate years such a college of osteopathy and shall be examined by the board in certain designated branches, and that those who apply after July 1, 1907, shall in like manner have studied for four separate years and submit to such examination.

"Section 7, provides:

> Any person who shall practice or attempt to practice osteopathy in treating diseases . . . without having first obtained the license herein provided for . . . shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not more than one hundred dollars or by imprisonment in the county jail for a period of not more than ninety days for each offense.

"There is nothing in the bill to indicate what constitutes the science of osteopathy. An effort to solve the query by an examination of the printed literature of the science is not very successful. Dr. A. T. Still, who is the founder of the science and is still living, in his autobiography, says:

> Who discovered osteopathy? Twenty-four years ago, the 22d day of next June, at ten o'clock, I saw a small light in the horizon of truth. It was put in my hand, as I understood it, by the God of nature. That light bore on its face the inscription: "This is my medical library, surgery and obstetrics. This is my book with all directions, instructions, doses, sizes and quantities to be used in all cases of sickness, and birth, the beginning of man: in childhood, youth and declining days." I am something of what people call "inspired." . . . The other classes have different names for it—clairvoyancy and clairaudient. Sometimes I was so clairvoyant that I could see my father twenty miles from home: I could see him very plainly cutting a switch for my brother Jim and I, if we hadn't done a good day's work. That is called clairvoyance. Then I could hear him say: "If you don't plow faster I will tan you twice a week." That is clairaudience.

"In his Philosophy of Osteopathy he says:

> Principles to an osteopath means a perfect plan and specification to build in form a house, an engine, a man, a world, or anything for an object or purpose. To comprehend this engine of life of man which is so constructed with all conveniences for which it is made, it is necessary to constantly keep the plan and specification before the mind, and in the mind, to such a degree that there is no lack of knowledge of the bearings and uses of all parts.

"However true this may be, it is too indefinite to give the ordinary layman any very accurate description of the science. Since the bill refers to other schools for the practice of medicine, it is probably a school, and it appears from Section 5 that the holders of certificates are not to prescribe or to use drugs or operative surgery. The main reliance would appear to be on the manipulation of muscles and nerves, but this conclusion is entirely an inference and may be incorrect. It must be assumed, however, that there is some scientific truth which those interested in osteopathy have discovered and that it is utilized in the treatment of diseases. The study of medicine and surgery has been conducted for ages, and we have much legislation which is applicable to its conduct. Under the act of May 18, 1893, a medical council was established which issues licenses after examinations authorizing the applicants to practice medicine and surgery. If, then, osteopathy represents some truth in the treatment of disease, the knowledge and use of which would be beneficial to the diseased and the injured, with what consistency can these practitioners be prevented from making such use of it? Why should their patients be deprived of such benefit as may result from the discovery? If, however, this bill should become a law, the physician who would practice or attempt to practice what the osteopaths have discovered would be punishable by imprisonment for ninety days. This would be possibly a great loss to the community and certainly a great wrong to the physicians.

"The whole thought of the establishment of schools of medicine is unscientific. All those engaged in such pursuit ought to be seeking to ascertain the truth and to accept it wherever it may be found. The approval of this bill would appear to give the authority of the state to a system of practice in the healing art which excludes the use of medicine and the use of surgery. Why should there be an attempt to so confine the operations of the mind? If both drugs and surgery are useless they may be rejected, but if they should at times be found to be beneficial, why should any science for the enforcement of a theory make the effort to exclude their use?

"Should the bill become a law licenses would be issued by the State Board of Osteopathic Examiners and not by the Medical Council of Pennsylvania, which would be an anomaly in our legislation on the subject.

"For these reasons the bill is not approved."

The committee, which consisted of Drs. Alfred Stengel, H. A. Hare, Henry Beates, J. Madison Taylor, Charles H. Frazier, J. M. Anders and L. Webster Fox, recommended that the society have a standing committee on medical legislation to look after all similar matters affecting the profession.

FOREIGN.

Hospital for Crippled Children in Holland.—The Queen of Holland is said to have given $100,000 recently to found a hospital for crippled children at The Hague.

Dengue in Australia.—In an epidemic of dengue in Brisbane, Queensland, more than one-half the inhabitants have been stricken, although the death rate has been very low.

Ankylostomiasis in Germany.—From March 8-29, 1905, according to Public Health Reports, 82 cases of ankylostomiasis were reported in the Arnsberg mining district in Germany.

Leprosy in Germany.—In the German Empire, during the year 1904, 24 cases of leprosy were registered. Of these, 19 cases occurred in Prussia, 3 in Hamburg, 1 in Mecklenburg-Schwerin, and 1 in Alsace-Loraine.

French Yellow Fever Commission in Brazil.—The members of the commission from the Paris Pasteur Institute have arrived at Rio de Janeiro and were entertained at a banquet given by the minister of foreign affairs a few days ago.

Six Tons of Quinin a Year.—This is the amount of quinin taken annually by the people of Italy, according to the *Riforma Medica*. The state produced nearly 30,000 kilograms of quinin during 1903-04, and sold nearly half this amount. This is equivalent to six tons a year. The population of Italy is 32,449,754.

First Hospital for Eye Affections in Paris.—Baron Adolphe de Rothschild has built and equipped the first ophthalmic hospital in Paris. It is said to be a model in every respect. The stone building is an imitation of an old Norman chateau, and is said to be one of the architectural ornaments of the city. Two hundred patients were admitted the first day.

Diminishing European Birth Rate.—The birth rate in the German empire continues its downward course, being only 33.9 per 1,000 in 1903, from 35.7 per 1,000 in 1901. In Great Britain the birth rate has fallen from 30.7 in 1893 to 27.6 in 1904. The last statistics give 22 per 1,000 as the latest figure for the birth rate in France, according to the *Semaine Medicale.*

Inroads of Alcohol in Berlin.—Professor Stadelmann of Berlin says that 7 per cent. of all the cases admitted to the Friedrichshain general hospital in his charge are cases of delirium tremens. He believes that between one-fourth to one-third of the diseases afflicting men in the districts in Berlin inhabited by workingmen are due to the abuse of alcohol. It is one of the principal reasons for the increase in suicides in Berlin, which had 32 suicides to each 100,000 inhabitants in 1904. Paris had 26, Vienna 24, Rome 18, and London 13.

The New German Volkswohlfahrtsamt.—The German government has been styled paternal in its provisions for the people, but the new bureau that has been created with the above title must certainly be styled maternal in its solicitude for the welfare of the populace. This is the literal meaning of its name. The bill creating the new bureau states that in the care for the sick, the invalid and the poor, the healthy, provident classes of the community must not be forgotten, and this bureau is to study means to keep them well and thriving and raise the standard of the public health and physique.

Schiller as a Physician.—May ninth was celebrated by the Germans abroad and in this country as the hundredth anniversary of the death of Friedrich Schiller, the great poet, dramatist and historian. It is not generally known that he commenced his career as a regularly graduated physician. The *Deutsche med. Wochft.* has been collecting data in regard to his work as a physician, and reviews his medical writings and teachings. He was a pupil of Boerhaave, and was imbued with the "humoral" doctrines of the day. The general conclusions of Magnus' article on the subject are to the effect that neither the science of medicine nor Schiller himself seem to have derived any permanent benefit from his connection with medicine. He soon abandoned it.

Nursling Consultations in Madrid.—Dr. Ulecia of Madrid has been instrumental in founding and conducting the free dispensary where mothers can bring their babies every week for consultation with the physician. They obtain advice how to keep them well, while at the same time receiving milk of superior quality for their use. At a recent conference on the subject of charitable work in this line in Europe and America, a row of mothers with their babes sat on the platform behind Dr. Ulecia, and he was able to present many children in good health who owed their lives undoubtedly to his trained observation and advice. These nursling consultations and milk stations are known in Europe as the "Drop of Milk." (Goutte de lait or gota de leche.) Ulecia is trying to arouse interest to have such institutions founded in every town throughout Spain.

Epidemic of Cerebrospinal Meningitis in Germany.—To date over 1,400 cases of the disease have been reported, and the mortality has been fully 70 per cent. The contagiousness of the disease has been apparently established by a number of groups of cases. In Radmann's experience with 30 cases they occurred in groups in four instances. A brother and sister showed symptoms of the disease with an interval of thirty-six hours in one case. The incubation on an average was apparently between this and forty-eight hours. Only 12 persons in the 300 affected at Kattowitz were more than 12 years old. An exanthem is frequently observed, and the cases presenting it seem to be milder than the others. Long hot baths and wet packs were symptomatically beneficial, but no medication seemed effectual, although sodium iodate has been favorably mentioned by some. The Weichselbaum diplococcus was found in all of the 760 cases examined at Beuthen. The epidemic has spread mostly south and east, invading Austria and Russia, but a few scattered cases have occurred in northern and western Germany. The mortality in the last mentioned is not so high as in the endemic focus, only 53 per cent. The cases seem to be grouped in a comparatively limited area, and the subjects have generally been adults.

Pharmacology

The Fundamental Principle of Medical Ethics.

The words ethics and ethical have been referred to so frequently of late, in connection with the proposed work of the Council on Pharmacy and Chemistry of the American Medical Association, that one is almost led to believe that the origin and the limitations of medical ethics are in some mysterious way confined to the use or the non-use of proprietary medicines and that, to be strictly ethical, the physician should, or must, confine his drug medication to the use of ethical preparations. Nothing could be more remote from the actual facts than this supposition and, while it is true that proprietary medicines do play a very important part in the consideration of ethical conduct and practices of medical practitioners, it is not because these medicines are proprietary or secret, but because they are likely to lead the physician using them into unknowingly and unwittingly committing grave and serious errors.

The word ethics has well been defined as designating the science of right conduct, or the doctrine of man's duty to himself and to the rights of others. This science or doctrine is not to be considered as being a theory of modern conception, but is a product of evolution representing the accumulated experiences of countless observers and teachers during the various ages and stages of the world's history.

It would be folly, therefore, to suppose that any number or class of individuals could set up for themselves a set of regulations, or a system of ethics at variance with the accepted rules of moral obligations that guide and regulate the conduct and relations of the remaining portion of the human family. These fundamental facts should always be borne in mind in discussing the relations of physicians to patients, as these relations can in no way be considered exceptional and are subject to the same standards of right and wrong that govern the relations and the actions of the remaining portion of the community.

In this connection it may be interesting to note that the frequent assertion that a physician's first duty to his patient is to do good, regardless of the way it is done, or of the means or the methods employed, is to be classed as being one of the most fallacious and misleading. As physicians or as men, our duty to do good must, and properly should, be made subservient to the more imperative and primarily more important rule, not to do harm. The generally accepted importance of this rule or law will be more appreciated when we realize that it constitutes the underlying foundation of all acceptable forms of religion, of all known systems of ethics and of all modern compilations of statute law.

The peculiar position that we as physicians occupy, in our relations to patients, makes the duty of closely observing this fundamental law or rule of conduct doubly imperative, as it undoubtedly increases the possibilities of the ultimate harm that may be done in cases where the rule has been overlooked or ignored. In none of our relations to our patients is there greater danger of losing sight of this very important and vital rule of conduct than in the use, or rather abuse, of proprietary medicines. Here the possibilities of doing harm are numerous and varied, they may be immediate or remote, evident or obscure, vital or of little direct importance, but they are ever present and should be inquired into diligently, and, if possible, recognized and properly presented for the instruction and guidance of fellow practitioners. In this connection it may be properly asked: How many of us ever stop to inquire as to what may have been the history of the hundreds of new remedies that have been tried and found wanting during our own experience? They have gone out of use, it is true, but they have gone out of use in a way and at a price that is appalling. Hundreds of physicians have tried them on thousands of patients, causing unnecessary expense, prolonged suffering and, not infrequently, untimely deaths.

FURTHER COMMENTS QUOTED.

We submit below some expressions of opinion from various publications which discuss the general subject of secret nostrums and the plan of the Council on Pharmacy and Chemistry:

THE DRUGGISTS' CIRCULAR AND CHEMICAL GAZETTE:—"With the aims and object of this council no honest man or woman can find fault. We need just such work accomplished and we

need it badly. The shelves of pharmacists are being incessantly loaded with worthless preparations which unposted medical men are wiled into subscribing by smooth-tongued detail men, tempting advertisements, and free samples. After the druggist has become stocked with such worthless stuff the doctor becomes disgusted with his results and quits prescribing it. As a result package after package and bottle after bottle accumulates on the shelves to increase the difficulty of finding standard goods. The price of these nostrums is usually high, so that the dead stock represents a considerable amount of capital. The druggist sometimes analyzes such goods, usually to find that a goodly number of them are very nearly the same in composition, and a temptation to 'substitute' is presented to him. When substitution is easy, the conscientious druggist is at a disadvantage as compared with his unscrupulous neighbor, and so he ought to be in favor of anything which will tend to remove this disadvantage.

"Human nature at its best is made of frail material. Could we calculate on the strength of character, intelligence, sympathy, affection and firmness of every individual it might be possible to determine how any given social experiment would be likely to terminate. A council like this one of the American Medical Association is pretty certain to be subjected to great strain unless it degenerates into inefficiency. Just in proportion to its success in carrying out the purposes for which it was created will be the strain to which its members are certain to be put. To properly execute the duties they have assumed will require a large amount of work that will have to be done without remuneration other than the honor which the position which they hold can confer. To shirk this work will be to court failure for the enterprise. To do the work and do it properly will be to win ill-will and invite secret undermining of good name. It will be well-nigh if not quite impossible for the members to draw the lines exactly where they think they should be drawn. It will be found well-nigh if not quite impossible to devote time and labor enough on certain articles to be sure of the truth concerning them. In giving the advantage of the doubt it will not always be possible to know that it is being given justly. The promoters of commerce are usually pastmasters in the art of using the hypnotics of conscience. They win advantages over rivals by such use. Men to whom they would not dare to offer a bribe of money they will offer work. Men who do not care for such work as they have to offer and who might even look upon it as bribery will receive a chloroforming dose of being elected to the coveted presidency of some society. Where even this will not win, friends of the man whose influence is sought receive these honors or emoluments and the promoters of commerce win through affection the good will that could not otherwise be bought. If it is concluded that they can not be won, that their presence on the council is dangerous to a certain interest, then it becomes necessary to get them removed from the council and have a pliant tool placed there. The powerful corporation that has much at stake will work for votes to make the change, and the character of the man that holds out most firmly against them will be quietly, steadily, and surely undermined. If he is a man of original thought he will be pronounced a dangerous crank. Somehow —anyhow—they will seek to have him deposed.

"How long will the members of the council stand all these strains? Charges of corruption will be voiced abroad, and the most innocent and inoffensive, by persistently defending what he deems the right, will bring on himself the secretly uttered smirch. Of course there will be none of this until the council's work begins to tell. It is only in case of success that these things can happen. Then good men may find it very uncomfortable to remain in the council while for bad men the inducements to get the appointment will be large. Should the position ever mean money, promotion, or advancement of personal interest, the struggle will commence and justice will begin to miscarry. IS THERE KNOWLEDGE ENOUGH, AND OF THE RIGHT KIND, IN THE AMERICAN MEDICAL ASSOCIATION, TO THWART COMMERCIALISM AND TO ESCAPE THE RIVAL POLITICS THAT IS PRETTY CERTAIN TO APPEAR? IF THERE IS, THEN THE EXPERIMENT WILL BE SUCCESSFUL AND WILL BENEFIT AND BLESS BOTH PHARMACY AND MEDICINE. IF THERE IS NOT, THEN WE FEAR THAT OUR LAST CONDITION MAY NOT PROVE TO BE ANY IMPROVEMENT ON OUR FIRST."

THE JOURNAL quotes the above at length because of the excellent presentation of the situation. The last portion is accentuated by us to bring it to the attention of the physicians of the country.

JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY (April): "Thus for the first time the medical profession will have established rules for advertising in its journal—supported by a scientific study by its own experts. It is to be expected that all the state medical journals will adopt this standard, and doubtless many private journals. . . . The names of the members of the council give assurance that the sifting will be done wisely and thoroughly.

"We are especially pleased to make this announcement because the council of the Michigan society presented the same idea to the meeting of that body last June. It received it favorably, and instructed its delegates to present it to the American Medical Association and to urge its adoption. It was so presented, but fell by the way. Its adoption by the Board of Trustees fully commends itself to the profession of Michigan, equally with that in other states. Various objections were made to it at the Atlantic City session of the American Medical Association, but these seem to be overcome, as indeed they were but straws. Intelligence and horse sense are all that is needed, inasmuch as the committee is backed by the wealth, prestige and power of a fairly united profession.

"No longer can it be said that the American Medical Association does nothing for the 'rank and file' of the profession, because it has now undertaken to flood with light the darkness of therapeutic agents used by said rank and file. The greatest medical organization of the world has set its stamp of disapproval on the hidden war of commercialism, and stands for the open dicta of expert scientists. With a mighty stride intelligent therapeutics will advance in its mastery of disease.

"This movement will test the power of the organization. By it we shall learn how firmly commercialism has intrenched itself within the profession. With the hundreds of millions of dollars invested in the business of secret remedies, commercialism will seek to give this move of the profession a 'black eye.' It is hoped that every physician will actively stand for open, honest, scientific pharmacy, every day in the year and under all circumstances."

Correspondence

WORKS AND NOT WORDS.

An Appeal from Mr. Bok to the Medical Profession.

PHILADELPHIA, May 15, 1905.

To the Editor:—During the last year I have received hundreds of letters from physicians in every part of the United States commending the attitude of the *Ladies' Home Journal* in its efforts to awaken the public to an understanding of the patent medicine curse. Scores of commendatory resolutions from medical associations have likewise come to our company. All these have been gladly received and appreciated, and our acknowledgments in each case have tried to express this fullest feeling of satisfaction. It is, therefore, with no lack of appreciation that I say that, while these individual and association commendations have been pleasant, I could wish the sentiments therein expressed might have resulted in some effective co-operative work.

What I mean is this: During the past winter there was introduced into the legislatures of not less than fourteen states bills which had for their object the regulation of the sales of injurious patent medicines, or the compulsory printing of the ingredients of these medicines on the label of each bottle, under penalty of fine or conviction. Committee hearings were given on these bills in each state. The proprietors of some of the patent medicines were exceedingly active—and effectively so—in their opposition to these bills.

Associations interested in the patent medicine traffic worked with unceasing vigil to defeat the bills—which they succeeded in doing. The newspapers in these states carrying the advertisements of patent medicines were notified that this lgislation was not desirable. Skillful lawyers appeared before these committees in opposition to the bills. Every effort, in short, was made to defeat these measures, and in all save one state the bills were "killed."

Now, who appeared in favor of the bills at these hearings? Generally, members of the Woman's Christian Temperance Union whose zeal usually exceeded their discretion and judgment—well-intentioned but ineffective. In one or two cases, representatives of some liquor dealers' association appeared in behalf of the bills. But not in a single instance, and I speak by authority of personal representation at each of these hearings, did there appear a single physician or the representative of a single state, county, or city medical association. There was not the slightest active interest taken by physicians in these hearings, and yet scores of physicians wrote me irate letters after the bills were defeated, deploring the corruption (?) of the legislatures in their states!

These hearings were usually of the most perfunctory order, and, from the side of any advocacy of the bills, absolutely without interest, since scarcely any one appeared to give intelligent or convincing reasons why the bills should become laws. Now, I ask the physicians and medical associations of this country: how are we ever to secure effective legislation against patent medicines until some intelligent reasons are presented by intelligent people having the respect of a community, why such legislation should exist?

It is not only likely, but probable, that during the next fall and winter terms there will be introduceed into the legislature of nearly every state in the Union, a regulative patent medicine measure—bills which have a vital interest to every physician in the United States; and my object in this letter is to draw to the attention of every physician, and particularly every medical association, not only the need, but the necessity, for their co-operation in this legislative work.

It is not meeting this question for physicians and associations to contend that their appearance and arguments before these committees would be deemed as emanating from interested motives, and thus have no weight. Surely, the other side does not argue thus, and their appearance and arguments before these committees are certainly from "interested motives." The statements and arguments of reputable physicians of the communities concerned would have the greatest possible weight before these committees. In fact, in several cases members of these committees have asked and desired that some physicians of standing should appear at the hearings, and marveled at their uniform and consistent absence.

Here is not only direct work for every medical association in America, but an actual crying need for such work, and, if I may speak a little frankly, a clear case of shirking responsibility where such work is not forthcoming.

I shall be in a position to know of the introduction of these legislative measures in any state where they are presented, and if in each state the leading medical association would appoint a committee, and a similar committee appointed by county and city associations, and the full name and address of the chairman of each committee can be forwarded to me, between now and October 1 next, it will afford me pleasure to communicate with such party immediately on the introduction of such a measure in the legislature of his state and supply him with printed material, now being prepared, containing arguments for the regulation of the patent medicine traffic in America and showing what has been done by other nations.

But the fact can not be too strongly urged that the most representative physicians in the state, city or county, the men occupying the highest positions in their professions and having the unquestioned respect of their communities, should be members of such appearing committees. The greatest weight should be given to the arguments presented, ensuring the most effective influence.

It should not be necessary to add—but still I will do so, in case of the exceptionally suspicious mind that is always with us: that no advertising element, so far as the magazine of which I am editor is concerned, enters into these desires on our part or into the material being prepared. The publishers of the *Ladies' Home Journal* have no desire that their periodical shall enter into these hearings as a periodical, mentioned, quoted, or commended; they do not crave such advertising; the magazine does not need it. The periodical entered on its editorial treatment of the patent medicine curse from principle and from no other motive. Its only interest is the interest of the great public at large: not the commendation either of it or its editor. Both have received that at the hands of the medical profession. It now asks at the hands of that profession works, not words.

EDWARD BOK,
Editor of the *Ladies' Home Journal.*

The Opium Question in the Philippines.

MANILA, April 14, 1905.

To the Editor:—In connection with the editorial in the *Medical Review* Dec. 10, 1904, on the above question the following statements may be worthy of consideration:

It is to be regretted that the report of the committee appointed to investigate the use of opium and matters therewith connected has not been published, as an acquaintance with its contents might lead to an avoidance of inaccurate statements in regard to its purport. But as the report is voluminous, containing not only the findings, conclusions and recommendations of the committee, but also all the evidence, statistics and laws on which they are based, it is still in the hands of the printer. The report will stand or fall on its own intrinsic merit, and should be read, if a sufficiently patient reader may be found, before the final word of criticism or commendation is said. Until the report is read, and the evidence on which it is based is known, it seems premature to assert the report is a compromise report, or to insinuate that there was a compromise with facts.

"The combination of events unknown (to the writer of the editorial in question), which induced the commissioners to take up the question of the regulation of the opium traffic, to protect the natives," was in no way connected with the "exaggerated statements of the harmfulness of the use of the drug, or with the commissioners' ignorance of the fact that the Asiatic nervous system is absolutely different from that of the European."

In passing, it might be said that the writer's self-attributed ignorance is fairly well supplemented by the conviction he has, that the commissioners "have no doubt been influenced by exaggerated statements, etc." The facts are:

1. The regulations in force during the Spanish supremacy, in regard to traffic in opium, ceased after the American occupation, so that at present there are no restrictions on its introduction into these islands, or on its use in any form in these islands.

2. The use and abuse of the drug by the natives of the Philippine Islands is rapidly and steadily increasing.

3. A very marked increase in the consumption of opium, resulting in a corresponding increase in the number of opium habitués, took place during and immediately after the cholera epidemic of 1902-3. This increase may possibly be due to the natives observing the comparative immunity of the Chinese to cholera, and attributing it to the use of opium rather than to the use of hot cooked food and boiled water (tea); moreover, opium may be of benefit in cholera.

4. All observers agree that the Malay possesses less power of resistance to the effects of opium than the Asiatic. The inhabitants of these islands are Malays, not Asiatics. There does not seem to be much similarity in the effects of the Betel nut and of opium.

The Chinese Chamber of Commerce and a part of the clergy here were opposed to the bill as drafted by the commissioners, prior to the appointment of the committee, but, strange to say, both parties, Chinese and clergy, were in favor of absolute prohibition. The Chinese gave the same moral reasons for being in favor of prohibition as were given by the clergy; so true is it that the Chinese never present their real reasons if others may be substituted.

It is believed that the statement made in the *Medical Record* that as much opium is now obtained in Formosa as was formerly obtained, will be modified in case the report of the committee is read.

E. C. CARTER,
Major and Surgeon U. S. Army, Commissioner of Public Health, Chairman of the Opium Committee.

Interurban Clinical Clubs—A Suggestion.

BALTIMORE, May 12, 1905.

To the Editor:—The remarkable success which has attended the Society of Clinical Surgery suggested to me the organization of a small clinical club among a few of the younger men in the eastern cities. I write now to urge the formation of similar clubs in different parts of the country. The objects should be:

1. The promotion of the scientific study of disease among the younger men.
2. Demonstration of methods of teaching and of work.
3. The encouragement of good fellowship among men working at the same problems.

The clubs should be small, not more than twenty or thirty members, so that all could see the demonstrations, etc. No papers should be read. Methods of work and of teaching should be specially dealt with, and as far as possible the men visiting a city should follow the routine of the day in the school at which the meeting is held. Demonstrations should be provided in cognate subjects, in the physiologic, pathologic and pharmacologic laboratories, and in the surgical clinics. One or two meetings a year should be held, and sometimes two adjacent cities could be visited. The clubs should not be large, and they should in no way take the place of or interfere with existing societies. The educational features for the members should be kept in view.

Six or eight of such clubs, grouped as follows, would do much to promote the study of internal medicine; every fifth year a joint meeting might be held.

1. Montreal, Kingston, Quebec and Burlington.
2. Buffalo, Cleveland, Toronto, London (Ont.)
3. Chicago and St. Louis.
4. Louisville, Memphis, Cincinnati, Columbus and Indianapolis.
5. St. Paul, Minneapolis, Omaha and Winnipeg.
6. New Orleans, Nashville, Birmingham and Atlanta.
7. Washington, Richmond and Charleston.

WILLIAM OSLER.

Book on Uric Acid.

WASHINGTON, D. C., May 13, 1905.

To the Editor:—Referring to the announcement on page 1547 of THE JOURNAL of May 13, as to republication of the series of articles on immunity, permit me to express the hope that the series of valuable papers on uric acid will also be republished in book form and under the author's name.

J. B. NICHOLS.

[EDITOR'S NOTE: The editorials on "Truth and Poetry of Uric Acid," slightly enlarged, will be reprinted in book form with the author's name.]

Association News

New England Special to Portland.

Arrangements have been made for special cars to accommodate members of the A. M. A. Outing Club and other persons from New England who are going to the Portland session. The fare from Boston is $78.50 for the round trip via the C., M. & St. Paul Railroad and Northern Pacific from Chicago, visiting Yellowstone Park (5½ days), and returning via the Canadian Pacific to Montreal, making short stops in the Canadian Rockies and visiting the Canadian National Park. The party contemplates leaving Boston June 27 for a trip of four weeks or more, visiting the important points in the American and Canadian Northwest where stopovers will be allowed. The party can be joined at any point en route, and change of route returning can be made if desired. Further particulars may be obtained from the secretary of the committee, Dr. E. R. Campbell, Bellows Falls, Vt.

Marriages

PHILIP C. HAY, M.D., Chicago, to Miss Helen Davis of Oshkosh, Wis., May 3.

JOHN T. HOSEY, M.D., to Miss Blanche Curling, both of Enterprise, Miss., May 3.

LUELLA S. CLEVELAND, M.D., Harlan, Iowa, and Charles E. Coplin of Leadville, Colo.

E. B. CUMMINGS, M.D., Bronson, Kan., to Miss May Hammel of McCook, Neb., May 7.

CHARLES H. MERRILL, M.D., Shenandoah, Ohio, to Miss Zora Starr of Cleveland, May 3.

J. C. HALL, M.D., Decatur, Ill., to Miss Clara Turpin of Oreana, Ill., at Decatur, May 3.

FREDERICK GREENBAUM, M.D., Chicago, to Miss Blanche D. Klein of Philadelphia, April 27.

DANIEL SCOTT SCHENCK, M.D., Safford, Ariz., to Miss Hattie Webb of Bryan, Texas, April 26.

R. W. CAMPBELL, M.D., Stillwater, Minn., to Miss Lucile Proventura, at Minneapolis, May 3.

REED MCCULLOUGH BAIRD, M.D., to Miss Jennie Penn Young, both of Wheeling, W. Va., April 29.

R. H. DRAPER, M.D., Bloomington, Tenn., to Miss Minnie Coomes of Knottsville, Ky., May 3.

JOHN D. BREWER, M.D., to Miss Lucile M. Grisham, both of Newbern, Tenn., at Memphis, May 3.

LOUIS N. WILSON, M.D., Mardela Springs, Md., to Mrs. Margaret J. Payne, at Baltimore, April 29.

ERNEST W. HILLETTS, M.D., Pittsburg, Pa., to Miss Anne Beattie of Hyde Park, Mass., May 10.

W. H. GLASGOW, M.D., Enid, Tenn., to Mrs. Bertha J. Fishleigh of Ontario, at Cincinnati, April 26.

J. E. NIXON, M.D., New Mount Pleasant, Ind., to Miss Mabel Hiester of Ridgeville, Ind., April 12.

JOHN CRESSWELL SLAWSON, M.D., New York City, to Miss Blanche Weller of Waverly, N. Y., May 16.

MICHAEL GEORGE FOSTER, M.D., London, Eng., to Mrs. Margaret Manning Russell, in Appleton Chapel, Harvard University, Cambridge, Mass., May 9.

Deaths

Heber Nelson Hoople, M.D. Toronto University, 1885, Bellevue Hospital Medical College, 1885, member of the American Medical Association, Kings County Medical Society, Medical Society of the State of New York, British Medical Association, Associated Physicians of Long Island, American Rhinological and Otological Society, and New York Physicians' Mutual Aid Society, died at his home in Brooklyn, May 8, aged 48.

George W. Friend, M.D. Jefferson Medical College, Philadelphia, 1851, for more than half a century a practitioner of Manchester, Chesterfield County, Va., from 1872 to 1874 a member of the state legislature; assistant surgeon in the Confederate service during the Civil War, died suddenly at his home in Richmond, May 5, from cerebral hemorrhage, aged 77.

Washington Matthews, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1864, assistant surgeon, U. S. Army, 1868; promoted to surgeon, 1889; retired from active service, 1895, died in Washington, D. C., April 29, from locomotor ataxia complicated with chronic nephritis and fracture of right femur, after an illness of many years, aged 61.

Joseph O. Yost, M.D. Medical Department of Western Reserve University, Cleveland, 1892, died suddenly from heart disease at his home in Hazelton, Youngstown, Ohio, May 2, aged 37. At a special meeting, held May 3, the Mahoning County Medical Association decided to attend the funeral in a body.

John A. Finlayson, M.D. Kentucky School of Medicine, Louisville, 1892, a member of the American Medical Association and a leading factor in the local medical, social and political matters in Emmet County, Iowa, died at his home in Armstrong, May 9, from appendicitis, after a short illness.

Robert **Dickey Wallace, M.D.** Cleveland Medical College, 1853, the oldest practitioner of Newcastle, Pa., some-time president of the Lawrence County Medical Society, died at his home in Newcastle, May 2, from arteriosclerosis, after an illness of three weeks, aged 77.

Thomas L. Newberry, M.D. Jefferson Medical College, Philadelphia, 1866, of Hiseville, Ky., a surgeon in the Confederate service during the Civil War, died in an infirmary at Louisville, May 3, five days after an operation for cystitis, aged 71.

John F. Oakley, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1890, a member of the American Medical Association, died at his home in Augusta, Ark., May 3, from malarial poisoning, after an illness of two years.

Frank McMahan, M.D. Sioux City (Iowa) College of Medicine, 1905, demonstrator of chemistry in that institution, died suddenly at Sioux City, May 7, from fatty degeneration of the heart, aggravated by acute alcoholism, aged 26.

William Vincent Wallace, M.D. New York University, New York City, 1855, one of the earliest members of the Rhode Island Medical Society, died at his home in Providence, April 29, after a short illness, aged 76.

George N. Watier, M.D. Trinity Medical College, Toronto, Ont., 1883, coroner of Washington County, Minn., died suddenly at his office in Stillwater, May 1, after the accidental ingestion of carbolic acid, aged 54.

Louis F. High, M.D. College of Physicians and Surgeons, Baltimore, 1891, medical director of the Pineshire Sanitarium, Southern Pines, N. C., died recently at a hospital in New York, after a long illness.

William M. Hammond, M.D. University of Maryland School of Medicine, Baltimore, 1845, for 40 years a resident of Kansas City, Mo., died at his home in Rosedale, Kan., April 27, aged 89.

Dwight M. Wright, M.D. Ohio Medical University, Columbus, 1898, of McArthur, Ohio, died at the home of his parents in Logan, Ohio, April 28, after an illness of more than two years, aged 27.

F. M. Baldwin, M.D. College of Physicians and Surgeons of San Francisco, 1900, died at his home in Reno, Nev., May 1, from pneumonia, after an illness of four days, aged 32.

Herbert H. Ellis, M.D. College of Physicians and Surgeons in the City of New York, surgeon for the Encampment (Wyo.) tie camp, died suddenly, April 29, from heart disease.

Walter L. Taylor, M.D. Years of Practice, Ohio, 1895, of Cincinnati, for 65 years a practitioner, died suddenly in Brooklyn, N. Y., May 9, from cerebral hemorrhage, aged 85.

Judson Coy, M.D. Harvard University Medical School, Boston, 1882, of Prince William, N. B., died at Wakefield, Mass., from nephritis, after a long illness, aged 53.

George H. Munson, M.D. Medical College of Indiana, Indianapolis, 1888, died at his home in Stanford, Ind., May 10, from typhoid fever, after an illness of 10 days.

Seymour C. Troutman, M.D. College of Physicians and Surgeons in the City of New York, 1854, died at his home in Somerville, N. J., May 6, aged 83.

S. D. Welch, M.D. Transylvania University Medical Department, Lexington, Ky., 1847, died suddenly at his home in Nicholasville, Ky., May 1, aged 81.

Lee M. Pettit, M.D. Missouri Medical College, St. Louis, 1859; St. Louis Medical College, 1878, died at his home in Greenville, Mo., May 4, aged 69.

James H. Joyner, M.D. Louisville (Ky.) Medical College, 1859, died at his home in Goodlettsville, Tenn., April 30, after an illness of two years, aged 77.

Andrew C. Donovan, M.D. Rush Medical College, Chicago, 1871, died suddenly at his home in Excelsior Springs, Mo., from heart disease, May 2, aged 55.

F. A. Wallace, M.D. Medical Department of the Pennsylvania College at Gettysburg, 1841, died at his home in Fox Lake, Wis., April 27, aged 86.

G. Lewis Yager, M.D. Boston, 1901, of Cambridge, Mass., died at his home in Dorchester, Mass., April 13, from cerebral hemorrhage, aged 29.

Joseph H. Ford, M.D. Medical College of Indiana, Indianapolis, 1872, died at his home in Auburn, Ind., May 3, after an illness of a year.

Jared Bassett, M.D. Albany (N. Y.) Medical College, 1839, died at his home in Evanston, Ill., May 10, from pneumonia, aged 91.

James Wilson, M.D. Memphis (Tenn.) Medical College, 1848, died at his home in Plano, Texas, May 4, aged 80.

Queries and Minor Notes

PHYSICIANS MAY DISPENSE—CARDS IN NEWSPAPERS—CHARITY PROBLEMS.

KNOB, CAL., May 5, 1905.

To the Editor:—As a member of the American Medical Association and a reader of THE JOURNAL, I am much interested in the subject of professional ethics as discussed by THE JOURNAL and by other journals. Please answer the following questions relative to professional ethics: 1. (*a*) Is it considered non-ethical for a physician to dispense his own drugs instead of writing prescriptions? (*b*) If not, is it non-ethical for a physician to have printed on his professional card the statement that he does not write prescriptions, but dispenses his own drugs? 2. Would it be considered non-ethical for a physician to announce in the local lay papers of his community that he would treat free of charge all patients calling at his office during certain hours on certain days? Question 2 is prompted by the fact that in all communities physicians are called on to treat a great many patients from whom they receive no remuneration, some of whom are amply able to pay if they would. Dr. A. believes that those who can and do not pay would do so rather than be considered charity patients; also that it puts him in a better position to demand his pay from his non-charity patients.

DR. E. H. PITTS.

ANSWER.—1. (*a*) The relative merits of prescription writing versus drug dispensing have no ethical relations. The choice is a matter of individual taste and local custom. (*b*) The placing on a professional card any information other than the name, office hours or telephone number is in most places looked on as at least bad taste. To add to the card the words "drugs dispensed," while hardly to be looked on as unprofessional conduct, would certainly be regarded as unnecessary advertising. No doubt some county societies would consider such a card as entitling the owner to censure. 2. It would certainly be unprofessional conduct for a physician to advertise in the lay papers that "he would treat free of charge all patients calling at his office during certain hours or on certain days." No specious apparent justification of such a procedure can alter its true unprofessional character. It is right for any physician to arrange with his charity patients to call on him at a certain convenient hour. To advertise the fact in the newspapers would be highly reprehensible. To make all who can afford it pay for medical care is eminently proper, but the correct methods for attaining that end necessitate no advertising.

HOW LONG SHALL THE PUERPERA REMAIN IN BED?

———, ———, May 5, 1905.

To the Editor:—A physician who recently returned from a trip to Chicago has announced that he learned in a postgraduate school of that city how to conduct a labor by which the woman could be up and about in three days. Only as late as last year I had it drilled into me that the process of involution was a necessarily slow one, and required the recumbent posture for its most complete and perfect consummation. It has been my practice for years, with the physiologic processes of the post-perineum in mind, to require my patients to keep in bed for ten days to two weeks after labor. I wish to know if any reputable teacher of obstetrics gets his patients out of bed three days after labor, and so teaches the physicians who come for post-graduate instruction. If such is the case, I want to know something about it.

X. Y. Z.

ANSWER.—Many obstetricians have come to the conclusion that the common practice of keeping a puerpera in bed from ten to fourteen days and then letting her get up for several hours at a time is not satisfactory. The long lying in bed without exercise is apt to produce disturbances of the digestion, excretion and circulation with weakened muscles and tender joints. When a patient so weakened and with disarranged functions gets up and remains up for some hours she generally has a return of the lochia, a backache and a feeling of weakness which is far from normal. Recently some obstetricians have thought to obviate this by letting the patient get up on the second or third day of the puerperium. This is in line with the practice of a few surgeons who have their laparotomy patients get up on the second or third day. There seems to be no danger to life in this practice, but the great balance of authority is still opposed to this extreme teaching, and probably will always be opposed to it. After the long strain of pregnancy a woman needs some rest, and the proper involution of the pelvic organs and of the abdominal walls is favored by the horizontal position. The objections to the prolonged rest in bed can be overcome by the employment of suitable bed exercises, such as those described in the paper by Bacon on "Massage and Exercise in the Management of the Puerperium," published in THE JOURNAL, Aug. 16, 1902. With such exercise a rest of seven to fourteen days is an advantage, and if the patient begins to walk and sit a little at a time and progress slowly she will make the safest and most satisfactory convalescence.

MODIFICATION OF COW'S MILK.

BALTIMORE, May 2, 1905.

To the Editor:—Will you kindly inform me how to answer the following questions, which were given at the state board examination in Baltimore, June and December, 1904:

1. Write formula for a mother to use in home modification of cow's milk to yield the following proportions: Total quantity, 40 ounces; fats, 3 per cent.; proteids, 2 per cent.; sugar, 6 per cent.; alkalinity (expressed in limewater), 10 per cent.

2. About what percentage of fats, proteids and sugar should the following milk formula yield: Gravity cream, 5 oz.; skimmed milk, 5 oz.; sugar of milk, 1 oz.; water, a sufficient quantity to make 20 oz.

Kindly mention some text-books which may be consulted with reference to these questions. D. E. RITTER.

ANSWER:—Numerous formulæ and tables for use in percentage modification of cow's milk have been proposed by different writers, but many of these are somewhat complicated and hard to remember. Since the exact composition of milk and cream is rarely known and different specimens differ greatly, there can be only a rough approximation to accuracy. For house modification, top milk or so-called gravity cream is generally used unless cream of a certified composition can be obtained. The upper 6 to 7 ounces taken from a quart bottle of good milk, which was bottled shortly after milking, and for at least four hours has been kept cool contains about 16 per cent. of fat, while it retains about the same proportion of proteids as whole milk. With such a cream and with a good whole milk whose composition is about 4 per cent. fat, 4 per cent. proteid and 4 per cent. sugar, it is perhaps the simplest way to compute the formula required by the first question by means of simple algebraic equations, as follows:

Let x equal No. oz. of cream; y, No. oz. milk; z, No. oz. water.

Then $x + y + z = 40$ (1).

Since the percentage of fat in x oz. of cream is 16 and in y oz. of milk is 4 and in the mixture is 3, then:

$16x + 4y = 3(x + y + z)$ (2), or

$13x + y = 3z$ (3).

Since also the percentage of fat in both cream and milk is 4 and in the mixture 2, then:

$4x + 4y = 2(x + y + z)$ (4), or

$x + y = z$ (5).

Substituting the value of z in equation 1: $x + y = 20$ (6).

Also in equation 3 and we have: $5x = y$ (7).

Combining equations 6 and 7, we have: $x = 3\,1/3$.

Hence: $y = 16\,2/3$, and

$z = 20$.

To obtain 6 per cent. of sugar in the mixture, since both the cream and milk contain only about 4 per cent., we should need 2 per cent. of 20 oz. and 6 per cent. of 20 oz. to sweeten the water, which would amount to 1.6 oz. or about 10 level teaspoonsful of milk sugar. Ten per cent. of limewater would be, of course, 4 oz. The formula then would be:

3 1/3 oz. "gravity cream."
16 2/3 oz. of milk.
16 oz. of sterile water.
4 oz. of limewater.
Ten level teaspoonsful of milk sugar.

In the second question the proportion of cream, milk and water are 1, 1 and 2, hence:

	Fat.	Proteid.	Sugar.
Cream	16	4	4
Skimmed milk	½	4	4
Total	16½	8	8
Dividing by 4:	4⅛	2	2

To 20 oz. of the mixture 1 oz. or 5 per cent. of milk sugar is added, which, combined with 2 per cent., makes 7 per cent. Hence the percentage of the food constituents is about 4 per cent. of fat, 2 per cent. proteids and 7 per cent. sugar.

The recent text-books on children's diseases contain certain directions on modifying milk, and we may also refer to recent monographs on "Infant Feeding" by Chapin and by Pritchard, and also to articles easily found from the Index to Current Medical Literature in THE JOURNAL, printed semi-annually.

State Boards of Registration

COMING EXAMINATIONS.

The Nebraska State Board of Health, Lincoln, May 31 and June 1. Secretary, George H. Brash, M.D., Beatrice.

Minnesota State Board of Medical Examiners, Old State Capitol Building, St. Paul, Minn., June 6-8. Secretary, C. J. Ringnell, M.D., Minneapolis.

Board of Medical Examiners of Wyoming, State Capitol, Cheyenne, June 7. Secretary, S. B. Miller, M.D., Laramie.

Michigan State Board of Registration in Medicine, The Capitol, Lansing, June 13. Secretary, B. D. Harlson, M.D., Sault Ste. Marie.

State Board of Medical Registration and Examination of Ohio, Cleveland, Columbus and Cincinnati, June 13-15. Secretary, Frank Winders, M.D., Columbus.

Board Representing the President and Fellows of the Medical Society of Delaware, Dover, June 20-22. Board Representing the Homeopathic Medical Society of Delaware, Wilmington, June 20-22. Secretary of the Medical Council of Delaware, P. W. Tomlinson, M.D., Wilmington.

State Board of Medical Examiners of New Jersey, Trenton, June 20-21. Secretary, E. L. B. Godfrey, M.D., Camden.

Medical Examining Board of Virginia, Richmond, June 20-24. Secretary, R. S. Martin, M.D., Stuart.

Board of Medical Examiners of Maryland, Baltimore, June 21-24. Secretary, J. McP. Scott, M.D., Hagerstown.

Medical Council of Pennsylvania, Philadelphia and Pittsburg, June 27. Secretary of the Medical Council, H. C. Shaeffer, M.D., Harrisburg.

California April Report.—The Board of Medical Examiners of the State of California reports the written examination held at San Francisco, April 4-6, 1905. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number examined was 56, of whom 39 passed and 17 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Northwestern Univ. Med. School, Ill.	(1903) 80.6; (1901) 89; (1890) 83.5.	
Med. Dept. Univ of Cal	(1904) 83.6, 80.8, 79.1,	81.1
College of Phys. & Surgeons, Chicago	(1902)	76
Jefferson Medical College, Philadelphia	(1885)	84.2
University Med. Coll. of Missouri	(1904)	75.1
American Medical Missionary College	(1904)	84.1
College of P. & S., New York	(1902)	87.3
Rush Medical College, Illinois	(1903)	87.3
Harvard Medical School	(1896) 80.3; (1898)	77.6
Cooper Medical College, S. F.	(1904) 82.2, 82.1, 82; (1905)	88.2
Coll. of P. & S., S. F.	(1905) 80.1, 79.1, 75.8; (1904) 80.8,	75
Med. Dept. Univ. of Cal	(1904) 83.6, 80.8, 79.1,	81.1
Coll. P. & S., Scotland	(1893)	80.3
Faculty of Medicine, Paris, France	(1905)	86.8
Hahnemann Med. Coll. of the Pacific.	(1904) 81.5; (1903)	75.4
University of Michigan	(1902) 87.3; (1901)	75
University of Minnesota	(1901)	78.2
University of Vermont	(1904)	77.4
Johns Hopkins Med. School	(1899)	82.8
Trinity University, Canada	(1904)	80.3
Washington University, Missouri	(1903)	75
Kentucky School of Medicine	(1885)	76.5
Homeopathic Medical College, Missouri	(1897)	83.3
Albany Medical College, New York	(1892)	82.5
FAILED.		
Univ. of Michigan	(1892) 57.3; (1872)	43.8
Rush Medical College	(1880)	42
Harvard Medical School	(1887)	68.1
Amer. Med. Missionary College	(1900)	67.6
Kentucky School of Medicine	(1890)	43.6
College of P. & S., S. F.	(1904) 72.7; (1905)	71.6
Bennett Medical College	(1895)	51.3
Hahnemann Med. Coll. of the Pacific.	(1904 81.5; (1903)	75.4
University of Pennsylvania	(1899)	64.1
Hering Medical College	(1897)	63.5
Laura Memorial Woman's College	(1903)	62
Cooper Medical College	(1903)	70.4
Central College of P. & S.	(1886)	64.7
Long Island College	(1885)	63.4
College of P. & S., Chicago	(1901)	68.2

Idaho April Report.—The secretary-elect of the Idaho State Board of Medical Examiners is Dr. J. L. Conant, Jr., Genesee, Idaho, who succeeds Dr. R. L. Nourse. At the written examination held at Boise, April 4, the number of subjects examined in was 12; total number of questions asked, 110; percentage required to pass, 75; number examined, 30, of whom 19 passed and 11 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Chicago Med. Coll	(1877)	85.5
Rush Med. Coll	(1903) 78.8; (1897) 82.7; (1902)	85
Toronto Med. Coll	(1900)	90.5
Central Med. Coll	(1898)	86.2
Denver and Gross Med. Coll.	(1903) 91.8; (1901) 86.7; (1903) 87.7.	
Illinois Med. Coll	(1905)	89.1
College of P. & S., Chicago	(1901)	96.4
Trinity Med. Coll	(1902) 89; (1898)	88.6
N. W. Woman's Med. Coll	(1901)	85.8
Chicago Homeo. Med. Coll	(1899)	90.1
University of Iowa	(1904)	82.6
University of Colorado	(1904) 89.6,	85.6
Med. Coll. of Paris, France	(1900)	81.8
FAILED.		
Howard Med. Coll	(1892)	70.6
University of South	(1904)	73.6
College of P. & S., Chicago	(1895)	69.8
Rush Med. Coll	(1890) 72.7; (1902)	71.9

FAILED. College.	Year Grad.	Per Cent.
Starling Med. Coll	(1877)	68.8
Barnes Med. Coll	(1893)	55
University of Nebraska	(1903)	68.7
Chicago Homeo. Med. Coll	(1879)	47.2
Bennett Med. Coll	(1900)	58.1
Ohio Med. Coll	(1889)	64.1

Indian Territory April Report.—Dr. B. W. Caldwell, secretary of the Board of Medical Examiners, Central District Indian Territory, reports the written examination held at South McAlester, April 4-6, 1905. The number of subjects examined in was 13; total number of questions asked, 130; percentage required to pass, 75. The total number of applicants examined was 29, of whom 21 were undergraduates. Fourteen passed, of whom 11 were undergraduates; 15 failed, of whom 10 were undergraduates and 1 not a graduate, but licensed to practice in Texas and in Louisiana. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Fort Worth Univ. (undergraduates)		77, 86, 79
College of P. & S., Dallas	(1905)	76, 76, 75
Baylor University (undergraduates)		81, 75
Barnes Med. Coll. (undergraduate)		86
Coll. of P. & S., Kansas City (undergraduates)		75, 79
Coll. of P. & S., St. Louis (undergraduate)		75
Gate City Med. Coll. (undergraduate)		75
Memphis Hosp. Med. Coll (undergraduate)		81
FAILED.		
Atlanta Med. Coll	(1879)	71
Coll. of P. & S., Dallas (1905) 55; (undergraduates)		61, 71
University of Arkansas (1893) 53; (undergraduate)		73
Memphis Hosp. Med. Coll. (undergraduates)		72, 74, 73
Kentucky School of Med	(1901)	65
Fort Worth Univ. (undergraduate)		47
Baylor University (undergraduates)		73, 72
Gate City Med. Coll. (undergraduate)		74
No college; licensed in Texas and Louisiana		41

Kentucky April Examination Questions.—At the examination held by the Kentucky State Board of Health, April 25, the following questions were asked:

BACTERIOLOGY.

1. How do cells multiply? 2. What is a germicide? 3. How would you secure a pure culture of the *Bacillus typhosus?* 4. Give Koch's rules in regard to bacterial cause of the disease. 5. Describe the *Bacillus tuberculosis* and detail a method of staining it.

HYGIENE.

1. Define hygiene. 2. How would you manage a case of phthisis pulmonalis to avoid danger to the other members of the family? 3. How would you manage a case of scarlet fever to prevent its spread, and what precautions would you take to avoid conveying it on your own clothing or person? 4. What is the source and danger of carbon monoxid in living rooms? 5. What are the qualities desirable in water for drinking purposes?

PHYSICAL DIAGNOSIS.

1. Give the abnormal heart sounds and the point of greatest intensity of each. 2. Give method of examination in suspected pleuritic effusion. 3. Give physical signs and method of examination in ascites. 4. Give the landmarks for the colon. 5. Give the physical signs for chronic salpingitis.

ANATOMY.

1. Describe the great sciatic nerve. 2. Describe the hypoblast and mesoblast, and tell what structures are formed by each. 3. Describe one of the following bones: Femur, radius or astragalus. 4. Describe the circle of Willis. 5. Describe the deltoid muscle. 6. Give the principal points to which the pneumogastric nerve is distributed. 7. Describe the gross and minute anatomy of the kidney, and give relations of structures entering and leaving it. 8. Name the muscles of the gluteal region. 9. Describe Poupart's ligament. 10. Describe the foramen of Winslow.

OBSTETRICS.

1. Describe the mechanism of a normal labor. 2. Give symptoms, causes and treatment of acute mastitis. 3. Differentiate between pregnancy and fibroid of the uterus. 4. Give the cause and treatment of postpartum hemorrhage. 5. How would you diagnose and manage a breech presentation? 6. Give the method of determining the quality of the lacteal secretion. 7. Give the diagnosis and treatment of fetal death in utero. 8. Give cause, diagnosis and treatment of puerperal eclampsia. 9. Give indications for and methods of podalic version. 10. Give prognosis for mother and child in placenta prævia.

SURGERY.

1. What is epistaxis? Give causes. How would you treat it? 2. Give the most common seat of fracture of the lower jaw and the treatment. 3. Give the general points of difference between malignant and non-malignant tumors. 4. Give the symptoms, methods of diagnosis and treatment of an enlarged prostate. 5. What are the varieties of fistula in ano? Give treatment. 6. Give the classification of aneurisms and tell how spontaneous recovery may occur. 7. What is a sprain and tell what tissues are involved. Give treatment for sprained ankle. 8. Give causes and treatment of varicose veins of lower extremity. 9. How may a fatty embolism of the kidney occur after a fracture? 10. Describe a carbuncle and give treatment.

PHYSIOLOGY.

1. Describe the various kinds of blood corpuscles, their origin and function. 2. Name the principal digestive enzymes and their functions. 3. Describe a cardiac cycle and give the phenomena attending it. 4. Describe the reflex centers. 5. Give the function of the skin. 6. Give the functions of the lungs, describing the various processes. 7. Give the physiology of vision. 8. Describe the lymphatic system, giving its functions. 9. How is animal heat produced, preserved and dissipated? 10. Describe the different kinds of muscular tissue and mode of action of each.

PATHOLOGY.

1. What diseases are attended with cardiac hypertrophy? 2. Describe the pathologic changes in hip-joint disease. 3. Describe the pathology of acute miliary tuberculosis. 4. Give the pathology of various forms of goiter. 5. Give the pathology of arteriosclerosis. 6. Give the pathology of the different forms of pleurisy. 7. What diseases are attended with ulceration of the intestines? 8. What general pathologic lesion characterizes chronic alcoholism? 9. Give the pathology of rickets. 10. What is a parasite? A saprophyte?

CHEMISTRY.

1. Mention ten elements, giving symbol, anatomic weight and valancy of each. 2. What is sulphur? How is it obtained? Give test for it. 3. How many kinds of heat? Describe them. 4. Give tests in detail for albumin in urine; sugar. 5. Define the meaning of the prefixes hypo-, proto-, bi- and per- in chemical nomenclature. Give examples. 6. Name the alkaline metals. 7. What are alcohols? How classified? Give an example of each class. 8. How determine the presence of organic matter in water? 9. What are acids? What are salts? How is each produced? 10. Give Marsh's test for arsenic.

OPHTHALMOLOGY.

1. Give the cause and symptoms of ophthalmia neonatorum. 2. Describe the iris. 3. What is the treatment for ptosis of the eyelid? 4. (a) How would you detect a foreign body in front of the lens? (b) Behind the lens? 5. Diagnose cataract.

OTOLOGY.

1. Give symptoms of acute otitis media. 2. Give diagnosis of mastoid abscess. 3. What ear symptoms indicate fracture of the skull? 4. Give diagnosis and treatment of eczema of the external auditory canal. 5. What ear complications may result from tonsillitis?

MEDICAL JURISPRUDENCE, MENTAL AND NERVOUS DISEASES.

1. What is malpractice? 2. How would you distinguish human blood stains on clothing? 3. What are the symptoms of poisoning by wood alcohol? 4. When is abortion legally justifiable? 5. How would you differentiate between (a) narcotic poisoning; (b) drunkenness; (c) uremia and (d) concussion? 6. Differentiate between hysteria and melancholia. 7. Name and define two forms of insanity. 8. What mental conditions render a testator capable of making a will? 9. How would you distinguish between a male and a female skeleton? 10. Differentiate between infantile paralysis and idiocy.

GYNECOLOGY.

1. How would you proceed to find whether a woman whom you had just delivered had a lacerated perineum, and how would you repair it? 2. How would you diagnose and treat acute gonorrhea in the female? 3. What are the most common benign growths found in the cavity of the uterus; causes, symptoms and treatment? 4. What would you suspect in a woman of fifty with a slight, constant, bloody uterine discharge, and how would you confirm or disprove your diagnosis? 5. How would you diagnose and treat ectopic gestation?

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending May 13, 1905:

Reno, Wm. W., asst.-surgeon, relieved from temporary duty on transport *Sumner,* and will return to his proper station at Fort Myer, Va.

Palmer, Fred W., asst.-surgeon, returned to U. S. Rifle Range, Arcadia, Mo., from detached duty at Jefferson Barracks, Mo.

Smith, Herbert M., asst.-surgeon, reported at Fort McDowell, Cal., for temporary duty.

Ashford, B. K., asst-surgeon, reported at Albonito, P. R., on special duty with the governor of Porto Rico.

Mason, Chas. F., surgeon, appointed member of board of officers to select site for new Army post in the vicinity of Buffalo, N. Y.

Rhoads, Thos. L., asst.-surgeon, left West Point, N. Y., on ten days' leave of absence.

Baily, Howard H., asst.-surgeon, left Fort Myer, Va., on ten days' leave of absence.

McCulloch, C. C., Jr., surgeon, granted ten days' leave of absence.

Wadhams, S. H., asst.-surgeon, on being relieved from duty on transport *Logan,* ordered to Alcatraz Island, Cal., for duty.

Fauntleroy, P. C., asst.-surgeon, granted twenty days' leave of absence.

Maus, Louis M., deputy surgeon general, ordered to Fort Logan H. Roots, Ark., Forts Reno and Sill, O. T., on inspection duty.

Owen, Wm. O., surgeon, relieved from treatment at Army and Navy General Hospital, Hot Springs, Ark., and ordered to join proper station, Fort Logan, Colo. Same order grants him three months' sick leave of absence.

Truby, A. E., asst.-surgeon, relieved from duty at Alcatraz Island, Cal., and ordered to Presidio of San Francisco for duty with Company B, Hospital Corps. Granted ten days' leave of absence.

Havard, Valery, asst.-surgeon general, returned to duty as chief surgeon, Department of the East, from detached duty.

Marrow, Chas. E., asst.-surgeon, left Fort Sheridan, Ill., on thirty days' sick leave of absence.

McAlister, John A., dental surgeon, arrived at Presidio of Monterey, Cal., for duty.

Daywalt, George W., contract surgeon, arrived at Jackson Barracks, La., for temporary duty.

McCallum, Francis M., contract surgeon, returned to his proper station, Fort D. A. Russell, Wyo., from temporary duty at Fort Washakie, Wyo.

White, J. Samuel, contract surgeon, returned to station, Fort Snelling, Minn., from Camp Lakeview, Minn.

Holmes, Thomas G., contract surgeon, returned to Fort Wayne, Mich., from leave of absence.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending May 13, 1905.

Hull, H. F., asst.-surgeon, detached from the *Franklin* and ordered to the Naval Hospital, Philadelphia.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending May 10, 1905:

Pettus, W. J., asst.-surgeon general, granted leave of absence for two days from May 4.

Carrington, P. M., surgeon, detailed to represent the service at meeting of the American Association for the Study and Prevention of Tuberculosis at Washington, D. C., May 18-19.

Lumsden, L. L., P. A. surgeon, relieved from duty at Philadelphia, directed to proceed to Baltimore and to report to commanding officer of United States practice ship *Chase* for temporary duty.

Billings, W. C., P. A. surgeon, relieved from duty at Quebec, Canada, directed to proceed to Seattle, Wash., and to report to commanding officer of the United States steamer *Perry* for temporary duty.

Kerr, J. W., P. A. surgeon, relieved from duty at Ellis Island, N. Y., directed to proceed to Quebec, Canada, for duty in office of the United States Commissioner of Immigration.

Robinson, D. E., P. A. surgeon, relieved from duty at Port Townsend Quarantine, directed to proceed to San Francisco and to report to commanding officer of United States steamer *Manning* for temporary duty.

Holt, J. M., P. A. surgeon, granted leave of absence, on account of sickness, for twenty-three days.

Foster, J. P. C., acting asst.-surgeon, granted leave of absence for ten days from April 17.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for eight days from May 10.

Gahn, Henry, pharmacist, to report at Washington, D. C., for special temporary duty.

Brock, G. H., pharmacist, granted leave of absence for thirty days from May 18.

Troxler, R. F., pharmacist, to report to medical officer in command, Marine Hospital, Port Townsend, Wash., for temporary duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended May 12, 1905:

SMALLPOX—UNITED STATES.

California: Los Angeles, April 15-22, 1 case; San Francisco, April 22-29, 2 cases.
District of Columbia: Washington, April 30-May 6, 7 cases.
Florida: Jacksonville, April 30-May 6, 8 cases.
Illinois: Chicago, April 30-May 6, 13 cases, 3 deaths.
Kentucky: Covington, April 30-May 6, 1 case; Lexington, April 22-29, 1 case.
Massachusetts: Boston, April 30-May 6, 1 death.
Michigan: Grand Rapids, April 22-May 6, 47 cases, 5 deaths.
Missouri: St. Joseph, April 30-May 6, 20 cases; St. Louis, May 1-8, 11 cases, 2 deaths.
Ohio: Cincinnati, April 29-May 5, 8 cases; Toledo, April 22-May 6, 7 cases.
Pennsylvania: Lebanon, April 30-May 6, 3 cases.
Wisconsin: Appleton, May 1-8, 4 cases, 1 death; La Crosse, April 22-29, 1 case.

SMALLPOX—INSULAR.

Hawaii: Honolulu, April 24, 1 case on steamship *Coptic* from Oriental ports.

SMALLPOX—FOREIGN.

Africa: Cape Colony, March 25-April 1, 1 case; Monrovia, March 4-11, 10 cases, 2 deaths.
Brazil: Pernambuco, March 15-31, 240 deaths; Rio de Janeiro, April 2-9, 3 cases, 5 deaths.
Ecuador: Guayaquil, April 11-18, 3 deaths.
France: Paris, April 15-22, 11 cases.
Great Britain: Bradford, April 1-22, 10 cases; April 15-22, Cardiff, 1 case; New Castle-on-Tyne, 1 case; Nottingham, 4 cases; Southamptom, 2 deaths among cases previously reported; South Shields, 2 cases.
India: Bombay, April 4-11, 86 deaths; Calcutta, April 1-8, 6 deaths; Karachi, April 2-9, 15 cases, 6 deaths; Madras, April 1-7, 9 deaths.
Italy: Catania, April 6-27, 4 deaths.
Norway: Christiania, April 8-15, 1 case.
Russia: Moscow, April 8-15, 5 cases: Odessa, April 15-22, 5 cases, 3 deaths; St. Petersburg, April 1-15, 24 cases, 7 deaths.
Spain: Barcelona, April 10-20, 10 deaths.
Straits Settlements: Singapore, March 18-25, 2 deaths.

YELLOW FEVER.

Panama: Colon, Jan. 23-April 2, 6 cases, 3 deaths; Panama, Jan. 1-April 29, 50 cases, 20 deaths.

CHOLERA.

India: Calcutta, April 1-8, 58 deaths.

PLAGUE.

Africa: Cape Colony, March 25-April 1, 5 cases, 1 death.
Arabia: Aden, April 7-14, 6 cases, 5 deaths.
India: General, March 25-April 1, 65,000 cases, 57,702 deaths; Bombay, April 4-11, 765 deaths; Calcutta, April 1-8, 712 deaths; Karachi, April 2-9, 104 cases, 176 deaths; Rangoon, to April 11, 500 cases, 380 deaths.
Mozambique: Govura, Feb. 2, present.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Medical Society of the State of N. Carolina, Greensboro, May 23-25.
Connecticut Medical Society, Hartford, May 24-25.
North Dakota State Medical Society, Grand Forks, May 24-25.
West Virginia State Medical Association, Wheeling, May 24-26.
American Gynecological Society, Niagara Falls, N. Y., May 25-27.
Rhode Island Medical Society, Providence, June 1.
Arizona Medical Association, Prescott, June 1-2.
Minnesota State Medical Society, St. Paul, June 1-2.
American Laryngological Association, Atlantic City, June 1-3.
American Laryn., Rhin. and Otol. Society, Boston, June 5-7.
American Orthopedic Association, Boston, June 6-8.
Indiana State Medical Association, West Baden, June 7-9.
Maine Medical Association, Portland, June 7-9.
Wisconsin State Medical Society, La Crosse, June 8.
Amer. Assn. of Genito-Urinary Surgeons, Montreal, June 13-14.
Massachusetts Medical Society, Boston, June 13-14.
American Pediatric Society, Lake George, N. Y., June 19-21.
Medical Society of New Jersey, West End, June 20-22.
Indian Territory Medical Association, Tulsa, June 20-22.
American Climatological Association, Detroit, Mich., June 28-29.
Michigan State Medical Society, Petoskey, June 28-30.

STATE MEDICAL ASSOCIATION OF TEXAS.

Thirty-Seventh Annual Meeting, held in Houston, April 24-28.

The President, DR. FERDINAND E. DANIEL, Austin, in the Chair.

President's Message.

At the meeting of the house of delegates the president submitted his annual message and recommendations in which he mentioned especially the earnest and sustained, but unsuccessful, efforts to secure legislation in the interest of science and public health; the outrageous veto of the anatomic bill; and referred to the bill for the formation of the State Board of Health to be presented to the next legislature, which covers the ground of sanitary science, renders unnecessary special acts regulating the sale of patent medicine, narcotics and other poisons and adulterated foods, drinks and drugs; prevents the pollution of water supplies; provides for the disinfection of public buildings, cars, etc., and regulates the practice of medicine and the licensing power. He recommended the affiliation of the state association of dentists with the medical association and the creation of a section on stomatology and oral surgery; the passage of a by-law directing the appointment of eighteen members by the association from whom the state board of medical examiners should be selected; provision for the election of trustees and the definition of their duties; definition of the duties, powers and limitations of councilor district societies, and the continuation of the publication of the transactions in book form.

Reports of Secretary and of Treasurer.

The secretary reported a membership of 2,436, and stated that Texas ranks seventh in the list of states in the number of its physicians; fifth in the membership of state societies, and twelfth in the percentage of membership to the total number of physicians. Seven new county societies have been added during the year with a total membership of eighty-six. He recommended the establishment of a state journal and gave in detail his arguments therefor.

The treasurer's report showed a balance of $5,060 in the treasury.

Welcome.

At the opening session of the association Hon. C. R. Wharton welcomed the visiting physicians on behalf of the City of Houston; Dr. E. N. Gray, president of the Harris County Medical Association, on behalf of that body, and Dr. Samuel C. Red on behalf of the physicians of Houston.

State Journal Adopted.

After a very lively discussion the house of delegates voted to abolish the "Red Book," the annual volume of transactions, and to make the *Texas State Journal of Medicine* the official organ.

History of the Association.

DR. ROBERT H. HARRISON, Columbus, chairman of the committee on collection and preservation of records, documents

and data of value to the association, made an interesting report of the early history of the association.

Board of Medical Examiners.

DR. J. T. WILSON, Sherman, president of the board, after giving the number of applicants for examination for certificates as physicians and the results of the examination, reported the defeat in the legislature of the bill embracing the amendments to the medical acts recommended by the board in 1904. The clause which exempts the so-called "drugless doctors" was the cause of its defeat.

Annual Addresses.

PRESIDENT DANIEL delivered the annual address on "Sentiment and Science," and Dr. Jarrette D. Law, Belton, the annual oration on "The Physician and the Humanities."

Tuberculosis in Texas.

DR. MATTHEW M. SMITH, Austin, chairman of the section of state medicine and public hygiene, called attention to the fact that Texas lacks means for the prevention of the spread of tuberculosis. He urged the necessity of the establishment of an institution for the care of indigent consumptives that they may be removed from public places where their presence is a menace to the public health. The general public is sorely in need of instructions as regards tuberculosis, and greater care should be taken to prevent the further spread of the disease. The public should be educated to the observance of anti-spitting, and school children should be guarded from infection.

Election of Officers.

The election of officers resulted as follows: President, Dr. J. Edward Gilcreest, Gainesville; vice-presidents, Drs. Marvin B. Grace, Seguin; Thomas A. Rape, Ballinger, and Oliver I. Halbert, Waco; trustees, Dr. William R. Thompson, Ft. Worth; John S. Lankford, San Antonio; Charles E. Cantrell, Greenville; William C. Blalock, Dallas, and Samuel C. Red, Houston; councilors, Dr. Luther A. Grizzard, Abilene, second district; Dr. Thomas J. Bennett, Austin, seventh district; Dr. Green L. Davidson, Wharton, eighth district; Dr. John T. Moore, Galveston, ninth district, and Dr. Benjamin F. Calhoun, Beaumont, tenth district. The secretary and treasurer were elected in 1904 for a term of three years.

Fort Worth was selected as the next place of meeting.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, Thursday, March 2, 1905.

The President, DR. RICHARD C. NORRIS, in the Chair.

Indications for the Slow Induction of Premature Labor.

DR. WILLIAM R. NICHOLSON mentioned the rarer indications, such as insanity, nervous diseases, blood diseases, etc., but limited himself to the most common indications, namely: Contracted pelves, placenta prævia, heart disease, tuberculosis and toxemia. While admitting that the rapid methods of delivery may very rarely be indicated in the treatment of some of these conditions, he expressed the belief that such indications are most unusual. Thus, in placenta prævia, there might be an indication found for Cesarean section, if a primipara presented a condition of alarming hemorrhage together with rigid cervix; but, in the vast majority of the cases of this abnormality, no such indications existing, the Cesarean operation has no place. In particular, all rapid methods of cervical dilatation by means of the dilators of Bossi and Seigveaux should be avoided, unless the attendant is experienced in the use of such instruments. He is even more strongly opposed to the rapid methods of delivery in the presence of eclampsia. Cesarean section has absolutely no place here. He believes in the great value of the premature termination of pregnancy in the presence of certain grades of pelvic deformity, but is doubtful as to its utility in the presence of tuberculosis of the lung, or cardiac disease, unless in the case of the latter the cause of the alarming symptoms is felt to be due to mechanical pressure of the uterus.

The Indications for Accouchement Force.

DR. GEORGE M. BOYD said that there are two varieties of forced delivery: "(a) The rapid method, which Zincke states represents the class of cases in which the condition of the mother, and sometimes that of the child, demands a prompt and rapid termination of the pregnancy; and (b) the slow method, representing those cases in which the delivery of the child may be effected slowly, because of the absence of immediate danger to the mother, and the existence of a justifiable disregard of the life of the fetus." He described the two steps in the operation: (1) Dilatation of the lower uterine segment and cervix by stretching, tearing or cutting. (2) Removal of uterine contents manually or by resorting to instrumental interference. Dr. Boyd has found the method of manual dilatation the most satisfactory, especially in treating eclampsia.

A Relatively Rapid Method for Terminating Pregnancy.

DR. RICHARD C. NORRIS said that nature's mechanism of dilatation of the cervix should be initiated by any method of artificial dilatation. The longitudinal fibers of the uterus exert a direct pull upward of the lower uterine segment and, assisted by the downward push of the hydrostatic pressure of the bag of waters, and later of the presenting part of the fetus, the lower segment is dilated, the internal os is opened and drawn upward, the surface thus being attenuated and effaced. Mechanical stretching and thinning is not physiologic dilatation, and explains the lacerations so frequent after rapid and complete mechanical dilatation. For two years Norris has used a method combining the use of the bougie, partial mechanical dilatation, to an extent not endangering the cervix (5-7 cm.), followed by the introduction of a very large bag of the Voorhees type (capacity 600 c.c.), which, when completely distended with 480 c.c. of water, supplies an artificial bag of waters. Continuous or intermittent traction on the bag may be employed when dilatation is inordinately slow. In 35 cases of induced labor for the lesser degrees of pelvic contraction, terminated either spontaneously or by forceps or version, the older method of a bougie followed by a bag, required an average of 27½ hours. In 52 cases by the same method, the indications being toxemia, grave kidney, cardiac and pulmonary diseases, chorea, pernicious nausea, etc., the average duration, there being a larger number of spontaneous deliveries, was 34 hours. In 18 cases in which the bag and bougie were preceded by partial instrumental dilatation, the dilator being both dilator and bag-introducer, devised by himself, the average duration of labor was 8 1/5 hours for cases terminated by forceps or version and 16½ hours for spontaneous deliveries, an average duration of 12 1/3 hours for spontaneous deliveries and 5½ hours for labors terminated by version or forceps.

Methods of Inducing Labor.

DR. BARTON COOKE HIRST said that since de Ribes advocated the use of his bag for inducing labor, it has been a disputed point whether the old plan by bougies or the newer one by the inelastic bag in the lower uterine segment is preferable. He has given both methods an extensive trial, with the result that he found the bougie method the easier for the patient and operator, and if properly used, about as efficient as the bag. He gave the following statistics, and though they do not represent his total experience, the number is sufficient for the drawing of conclusions:

Induced labor by bougies alone, 174. The child was born in less than six hours after the introduction of the bougies in eight cases; between six and twelve hours in 23; between 12 and 18 hours in 33; between 18 and 24 hours in 15; between 24 and 30 hours in 11; between 30 and 36 hours in 23; between 36 and 42 hours in 11; between 42 and 60 hours in 12, and in more than 60 hours in 2, the longest time recorded being 62 hours. There were 36 cases in which the time was not recorded. In 81 per cent. of 138 cases, therefore, the child was born in less than 36 hours from the time the bougies were introduced.

Induced labor by bags alone, 23. The child was born in less

than six hours after the insertion of the bags in two cases; between 6 and 12 hours in 3; between 12 and 18 hours in 3; between 18 and 24 hours in 7; between 24 and 36 hours in 6; between 36 and 42 hours in 1; between 42 and 60 hours in 2; over 60 hours 1. The longest time record was 91 hours. In five cases the time was not noted. The delivery was accomplished under 36 hours in 83 per cent.

Labors induced by bougies and bags, 11. The time required was considerably over 24 hours in all, because much time was allowed the bougies before the bags were used. In one of these cases, 96 hours were required, and even then, in spite of the fact that the full sized Champetier de Ribes bag passed spontaneously out of the cervix, there were no pains, and the fetus was extracted from the uterus by its foot. In the cases in which Bossi's dilator was used or vaginal hysterectomy was performed delivery was naturally promptly concluded.

In Hirst's experience, the bougie method best meets the desired requirements, viz., the minimum of discomfort and risk for the patient, and the least trouble and shortest length of time for the physician. In private practice, before leaving his office the physician puts two bougies, size 17 French, in a long glass tube, filled with water into which a mercuric chlorid tablet is dropped, and the tube corked. By the time he arrives at the patient's house, the bougies are sterile. Before the bougies are put in, one or two fingers should be inserted through the cervical canal and swept around the lower uterine segment to separate the membranes. A small tampon of iodoform gauze is placed in the vagina after the bougies are inserted. The physician is notified when the pains become strong and active. He makes no examination and does not remove the vaginal packing or the bougies, until expulsive pains begin, simply devoting the time and attention required in an ordinary labor case, plus about 15 minutes or less, for the insertion of the bougies. The patient has to endure the usual suffering of an ordinary labor, plus the scrubbing of the vagina. She does not feel the introduction of the bougies. In more than four-fifths of the cases she is delivered easily after a labor of average length. He thinks any more complicated or active treatment to bring on labor unnecessary. In many instances patients respond extraordinarily well to this simple plan. In 64 out of 138 cases the child was born in less than 18 hours from the time the bougies were inserted.

In contrasting the bag method with the bougies, Dr. Hirst said the bags must be boiled; their insertion is usually painful; and, if a large one is used, preliminary instrumental dilatation of the cervix is required, for which the patient ought to be anesthetized. After the insertion it is customary to have the nurse pull on the tube attached to the bag every ten or fifteen minutes; this, with the pressure of a large foreign body in the lower uterine segment, adds to the pains of labor. The physician usually has to make frequent examinations to be sure that the bag has not been expelled from the uterus, and to detect the degree of dilatation of the os, thus increasing the risk of infection. The bags do not remain sterile; the Voorhees bag, commonly used in America, quickly becomes foul. In some of his cases the nurse has pulled the bag out prematurely or has pulled the tubing off the bag, necessitating a reinsertion; and in one case a head presentation was converted into a shoulder presentation by the largest size Voorhees' bag. In about a fifth of the cases, or in about the same proportion as with the bougies, delivery is not secured in 36 hours, and something else must be done. Thus the question arises how to manage an induced labor if the bougies or bags fail. Dr. Hirst's present preference is to insert two bougies and wait twenty-four hours; if there are no labor pains by that time, there is at least always a marked softening and elasticity of the cervix. The patient may then be anesthetized and placed on an operating table. With Bossi's dilator, the cervical canal is dilated slowly to 6 or 7 cm. Up to this point there is no danger of injuring the cervix. A forceps is then applied and the child extracted, the whole process taking about thirty-five minutes. He has induced labor by this plan six times. The woman suffers not at all in her labor. She has not felt labor pains and knows nothing about the delivery. If there is a moderate laceration of the cervix or pelvic floor, the injuries are repaired in the puerperium and there are no permanent bad consequences. He thinks there is no reason for the prejudice against Bossi's dilator exhibited frequently by those who have had no experience with it. He has used the instrument twenty-five times, nineteen times for *accouchement forcé*. The only serious lacerations of the cervix have occurred in women delivered in less than twelve minutes. At first the instrument was used in this way for desperate cases of eclampsia, and even in them there was no dangerous laceration. With a slow dilatation, twenty minutes or more, up to 6 or 7 cm., there was not much more danger of lacerated cervix than in the average labor.

If the cervix is not easily dilated with Bossi's dilator after the bougies have been in place twenty-four hours, a slow dilatation with bags, or a rapid delivery by hysterectomy is available. He thinks Norris' proposition deserves careful attention. It is to dilate the cervix up to 7 cm. with an improved and modified Gau dilator, then to insert bougies and the largest sized Voorhees bag, partially filled with water. But even with this combination of all the plans of inducing labor, an apathetic uterus demands operative delivery, in addition, just as it does with bougies alone, bags alone, or both together, and in four-fifths of the cases bougies alone would be enough without the extra trouble and discomfort entailed by the other method. Nevertheless, Norris' technic is an excellent one and will often be useful, especially in cases at a distance where the consultant will be detained until the labor is over.

DISCUSSION.

DR. W. REYNOLDS WILSON'S experience in the induction of labor has been mostly confined to cases of threatened eclampsia and placenta prævia. He has had more or less experience with induction of labor for contracted pelves. In his opinion there are two classes of cases to be considered in the induction of labor. One is that which not only yields readily to the bougie, but to careful packing of the cervical canal and vagina, which he considers a very important adjunct to the use of the bougie. In another class of cases, introduction of the bougie will not cause softening of the cervix or promote uterine contraction. He believes that there is never any dilatation of the cervix without a corresponding degree of contraction in which the whole uterine organ takes place. With this in mind mechanical dilatation in most cases will be shown to be absolutely unnatural. There is, he said, a set of cases in which the cervix is elongated and in which the reflexes are absent, where the bougie is absolutely ineffective, and where he would imagine also the bag would be ineffective. The only possible way to induce dilatation in these cases is to attempt to soften the cervix by careful packing, then by manual dilatation afterwards, making allowance for the fact that time is the most essential element in the procedure. These undilated cases will always remain difficult cases, and it is a mistake to believe that they must be treated by methods of successive mechanical dilatation, because the prolonged treatment and the want of observance of the proper precautions against infection will probably all be against the interest of the patient. Wilson has noticed in certain cases, where it has been necessary to induce labor, that the unyielding quality of the cervix is very often accompanied with a condition of cervical gonorrhea. These cases are apt to be followed by symptoms of local infection and by chronic subinvolution.

He believes also that it would be well to call attention to the shock which accompanies *accouchement forcé* in these cases. The eclamptic cases are those which yield most quickly to dilatation. They are not the cases in which to perform *accouchement forcé*. When rapid dilatation is spoken of, it may be that procedure is meant, but where the eclamptic attack has really come on, the chances are that the labor can be carried on rather promptly. The rapid termination of labor in eclampsia is conservative treatment. In order to cure an eclamptic patient she must first be relieved of her pregnancy. The most modern theory of eclampsia rather explains that; that is, that the syncytial tissue finds its way into the maternal circulation causing to be created in the

serum a corresponding and compensating antidote to the poison which has been described by the Germans as syncytiolysin. If this compensatory or overcoming serum is not sufficiently produced, then the poison is not counteracted. On the other hand, if the antidote is produced in too great an amount to be neutralized, it in turn acts as an irritating toxin. If it is a sound theory, as soon as the syncytial tissue ceases its activity, the patient should be relieved of the poison; and, therefore, emptying the uterus rather favors not the elimination of the poison, but the cessation of its production.

DR. O. HOPKINSON, JR., considered all methods of interfering with pregnancy dangerous and only to be undertaken with an appreciation of the responsibility attached. The choice of the methods, he thinks, should be determined after a careful study of the case, as every case is a law unto itself. He prefers *accouchement forcé* in all cases in which the cervix has been previously dilated, that is, in multiparæ. He uses the Goodell dilators to the full extent, and then the Harris or Edgar method and delivers by version or forceps or allows spontaneous termination, as the occasion demands. If there is no need or haste, he prefers the bougie, or packing with gauze. Both of these methods he considers uncertain, and if the patient shows signs of fever or rapid pulse, he terminates by *accouchement forcé*.

DR. STRICKER COLES believes many cases are best treated by the induction of labor. In the cases where the child is too large for the pelves, if pregnancy is allowed to go to term, the fitting of the child's head to the mother's pelvis is the best index as to the time for the induction of labor. If this shows that labor should be induced before the thirty-second week, then it would be better to consider some other method of treatment. While the bougie has given good results in a large number of cases, it should be removed when labor pains become strong and regular, for when it is allowed to remain there is danger of premature rupture of membranes. This accident has not occurred, except in cases where it was left in too long. When the membranes have not ruptured, labor should be allowed to proceed normally and with as little interference with nature as possible.. If the membranes rupture prematurely, then insert the bag exhibited by Norris, which is large enough to give sufficient dilatation to deliver the child and with slight lacerations to cervix or pelvic floor. The Bossi dilator must be used with care in completing the dilatation as there is more danger of causing lacerations at that time. When obliteration of the cervix has not taken place, the Bossi dilator is a dangerous instrument if used to dilate rapidly, and under no circumstances should the cervix be dilated in less than half an hour. He thinks the operation of induction of labor is useful and will be successful if the cases are carefully studied and scientifically treated.

DR. NICHOLSON said, in regard to the etiology of eclampsia, that in the majority of cases structural changes are found in the kidneys and liver; that they may, however, be only microscopical; that there is some poison circulating in the mother's system and she is autotoxic. He fails to see what use there is in doing anything approaching *accouchement forcé* or any rapid method of delivery in a case of eclampsia. The woman is depressed by the toxins, and the question of a few hours will not make any difference in her life. While it is true that statistics show that a woman who does not become eclamptic until after her delivery is in very much less danger than if convulsed before delivery, nevertheless there is a distinct mortality in this period, and the mere fact of rapid delivery does not put a gestational case into the puerperal class. Therefore, he does not see any reason for the rapid delivery eclampsia. He believes the slow method is the method of value here.

DR. RICHARD C. NORRIS remarked that he would not like it understood that the method he described is the one he would use under all circumstances. He thinks the character of the indication for the induction of labor and the condition of the patient determines largely the method that should be used. For a case with no necessity for a short labor, if the bougie fails, he dilates the cervix mechanically and follows with dilatation by the bag. The method described has enabled him to terminate labor in 8½ hours, and is sufficiently rapid for all the complications he encounters. In cases of heart disease, eclampsia or placenta prævia, where it is to the best interest of the patient to be delivered rapidly, he uses this method in preference to the Bossi dilator or vaginal hysterectomy. It is a relatively rapid method for the termination of pregnancy, and when in the obstetrician's judgment eight or ten hours is sufficiently rapid, it is the method of choice. He could not recall a case where a more rapid delivery seemed to be necessary.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Pains of Tabes.

Gowers, in *British Medical Journal*, states that the pains in tabes can be greatly relieved but can not be entirely eliminated. The exacerbations of pain do not indicate a necessary increase of the morbid process as these conditions are susceptible to gouty, rheumatic and digestive derangements. Local measures are of service in relieving the more superficial pains such as chloroform sprinkled on lint and covered with oil silk. Hypodermic injections of cocain at the upper portions of the area over which the pain is felt, administering gr. ⅛ to ¼ (.008-.015) usually stops the pain for an hour or two. Or it may be administered by cataphoresis, using a 6 to 10 per cent. solution and placing it on the anode of the galvanic current. Within a few minutes the area over which it is applied has lost its response to touch and pain. The effect continues for about twice the length of time the current has been applied.

The deeply located pains are relieved only by internal treatment, which, of course, is of service in the superficially located pains. The author recommends the coal-tar derivatives as of most value for these pains. Phenacetin and acetanilid are of great value, unless the pains are severe. Acetanilid is the more effective, and asserts its value more when given in a single large dose, and at the beginning of the attack rather than when the pains have become well developed. In the latter instance morphin may have to be given before relief is obtained, but should never be used at the discretion of the patient.

Not only to decrease the frequency of the attacks, but to diminish the severity of the pain, the author recommends aluminum chlorid in doses of five to ten grains (.30-.65) three times a day. It is readily soluble in water. He recommends also, as worthy of trial, the use of ammonium chlorid, which acts similarly, but less actively. Similar effects may be produced by the alkaline salicylates and by aspirin; the latter should be suspended in mucilage or given in capsule. These latter agents are of service, especially in those attacks of pain brought on by changes in the weather.

Cirrhosis of the Liver.

In hypertrophic cirrhosis of the liver the *Medical Press* recommends belladonna, arsenic and mercurial preparations, especially calomel administered in doses of gr. 1/5 (.012) daily for one week, after which the following outline of treatment is recommended:

℞. Sodii arsenatis .....gr. i |06
Aquæ .....ʒx 300|
M. Sig.: One tablespoonful morning and evening.

If ascites is present the following:

℞. Theobromin .....gr. xxx 2|
Sodii phosphatis .....gr. xxx 2|
M. Ft. chart. No. iii. Sig.: One powder every hour and repeated daily for three days. Or:

℞. Pulv. scillæ |
Pulv. digitalis |
Pulv. scammonii, ää.....gr. i |06
M. Ft. pil. No. i. Sig.: One pill thrice daily.

In the atrophic form the following is recommended:

℞. Potassii iodidi 3i 4
Strych. sulph. .....gr. ss 03
Aquæ .....℥x 300
M. Sig.: One tablespoonful twice a day; and:
℞. Sodii benzoatis .....gr. v 30
Sodii phosphatis .....gr. x 65
Pulv. jaborandi fol. .....gr. ii 12
M. Ft. wafer No. i. Sig.: One wafer to be taken three hours after meals.

A pill containing aloes should be taken at bedtime.

As to the diet, attention is called to the fact that albuminoid substances produce the most stimulating effects on the liver, consequently meat should be eliminated from the diet when the liver is affected. Vegetable albuminoids, milk and eggs may be allowed, as they produce less toxic effect. Fats as a class are non-indicated, but vegetable oils and fresh butter are permissible. Milk is the best article of diet. Green vegetables, such as peas, haricots and artichokes, are permissible, but spinach, cabbage, turnips and radishes should be restricted. Alcohol, coffee and chocolate should likewise be excluded from the diet list.

Hemorrhoids.

According to T. C. Hill, in *Boston Medical and Surgical Journal*, it should be within the province of every general practitioner to treat successfully the more common rectal diseases, including hemorrhoids. Hemorrhoids may be classified, according to Hill, into external and internal, and of the former the most common forms are the thrombotic and the external connective tissue hemorrhoid. The thrombotic form is an extravasation of blood at the margin beneath the skin covering the external sphincter. It is a very painful condition, which usually lasts for two or three days, or until the clot has been absorbed and the pressure relieved on the nerves supplying the parts. They are usually caused by straining at stool, lifting, or by paroxysms of coughing. The treatment of this condition is simple and effective by first injecting with a sharp-pointed needle a 1 per cent. solution of eucain as follows: With the left index finger and thumb grasp the peri-anal skin near the tumor and pinch for a moment to render the part numb, and then insert the needle very superficially just under the skin, slowly injecting the whole of the top of the tumor. Then with a curved bistoury transfix the base of the swelling and cut outward, and if necessary use a curette to remove the clot and pack firmly with a strip of iodoform gauze and allow it to remain for twenty-four hours to prevent the formation of another clot. This procedure, Hill says, is always successful.

The "connective tissue hemorrhoid" is made up of redundant folds of peri-anal and anal skin caused by stretching this region by large hard fecal masses. A slight laceration is produced and a mild infection takes place. In the treatment of this form, when the external sphincter is acutely inflamed, but not hypertrophied, a palliative course of treatment is recommended. Constipation must be relieved. After bathing the parts with warm water and drying, he advises those procedures recommended by Goodsall and Miles of London of removing all adherent secretions and previous ointments, wiping the anal region with olive oil on cotton wool and then apply the following ointment:

℞. Zinci oxidi 3ii 8
Linimenti camphoræ .....℥ss 15
Lanolini .....℥i 30
M. Ft. unguentum. Sig.: To be applied locally at night, and during the day dust the parts with the following powder:
℞. Zinci oxidi .....℥ss 15
Pulv. camphoræ 3ii 8
Pulv. amyli 3x 40
M. Ft. pulvis. Sig.: To be applied locally during the day.

After the acute symptoms have subsided remove by excision, first anesthetizing with the eucain solution and excising the hemorrhoid with curved scissors and allow it to heal by granulations, or if the base is too broad the wound may be united with catgut sutures. Only two or three folds should be removed at one time, in order to avoid contraction of the anus. As to internal hemorrhoids where the patients complain of bleeding and protrusion takes place, operation is recommended in all cases. The author favors the injection method in skilled hands in such cases. He proceeds as follows: Empty the bowel by means of a saline cathartic and a large enema of soap and water; render the parts aseptic by means of a bichlorid solution and slowly inject the following:

℞. Acidi carbol. 3ii 8
Acidi salicylici 3ss 2
Sodii biboratis 3i 4
Glycerini (sterile) q. s. ad.....℥i 30
M. Sig.: Inject six to twelve drops slowly.

After the injection the hemorrhoids should be replaced within the bowel and a suppository containing one grain (.06) of pulverized opium inserted and a T bandage applied with moderate pressure over the anus. The bowels should be moved with cascara on the second night and daily thereafter.

While the writer does not believe in the exclusive use of this method, he is of the opinion that in properly selected cases where the external sphincter is somewhat relaxed, or can be dilated without much discomfort to the patient, perfect results may be obtained. But where the hemorrhoids are not large or are over three in number they may preferably be treated radically by ligature method.

Gant, in *New York Medical Journal*, states that the non-operative treatment of hemorrhoids consists in placing the patient in bed in a recumbent position, restricting the diet to liquids and semi-solids, giving laxatives and applying the ice bag and astringent remedies to reduce the swelling and inflammation. If strangulation is present with pain and spasm of the sphincter hot water compresses should be applied and suppositories containing morphin, gr. ¼ (.015), each inserted as necessary. If hemorrhage is present a small plug of gauze about the size of the little finger and three inches long should be inserted, moistened in a 2 per cent. silver nitrate solution or a 10 per cent. ichthyol or 50 per cent. balsam of Peru. But he is of the opinion that non-operative treatment is only palliative and must be followed sooner or later by operation. The operations most frequently employed are: 1, the clamp and cautery; 2, ligature; 3, excision; 4, injection.

This author prefers the clamp and cautery or the ligature methods. In uncomplicated cases he prefers the office treatment, and he has discarded cocain and eucain, and operates under local anesthesia by distending the tissues with sterile water.

Pruritus Vulvae.

The *Buffalo Medical Journal* recommends the following in the treatment of pruritus vulvæ:

℞. Acidi borici 3ii 8
Acidi carbol. liq. 3i 4
Morphinæ muriatis.....gr. i 06
Lanolini .....℥ii 60
M. Ft. unguentum. Sig.: Apply locally.
In pruritus ani the following is of service:
℞. Resorcin .....gr. vii 45
Pulv. opii .....gr. iii 20
Ung. aq. rosæ
Lanolini, ää.....3ii 8
M. Sig.: Apply a small amount on absorbent cotton morning and night.

Medicolegal

Negligence of Experts.—The Supreme Court of the United States says, Oceanic Steam Navigation Co. vs. Aitken, that it is true that negligence must be determined on the facts as they appeared at the time, and not by a judgment from actual consequences which then were not to be apprehended by a prudent and competent man. This principle nowhere has been more fully recognized than by this court. But it is a mistake to say that if the man on the spot, even an expert, does what his judgment approves, he can not be found negligent. The standard of conduct, whether left to the jury or laid down by the court, is an external standard, and takes no account of the personal equation of the man concerned. The notion that it "should be co-extensive with the judgment of each individual," was exploded, if it needed exploding, by Chief Justice Tindal, in Vaughan vs. Menlove, 3 Bing. N. C. 468, 475. And since then, at least, there should have been no doubt about the law.

May Show Refusal to Submit to Examination.—The Court of Civil Appeals of Texas says, in Houston Electric Co. vs. Lawson, a personal injury case brought by the latter party as next friend for his minor son, that on the trial the company offered to prove that it had made a motion to have the court appoint a committee of physicians to examine the child to ascertain the extent of its injuries, and that the plaintiff would not agree to the granting of said motion. The plaintiff objected to this proof being made, and the objection was sustained. The court thinks it clear that it was error to exclude this evidence. It says that the extent of the child's injuries and their reasonable probable effect on its future health were put in issue by the evidence. On these issues no testimony would be as satisfactory as the opinion of competent and disinterested physicians who had made a thorough examination of the child. This source of information was closed by the refusal of the plaintiff to submit to an examination and the want of power in the court to compel such examination. When a plaintiff in a case of this character refuses to submit to an examination, the fact of such refusal is a circumstance tending to discredit his claim as to the extent of his injuries, and is admissible in evidence for that purpose. Of course, there might in many cases of personal injury be reasons for a refusal by the plaintiff to submit to an examination which would greatly weaken, if not wholly destroy, the effect of such refusal as evidence; but the refusal, and the reason, if any, given therefor by the plaintiff, are facts to go to the jury, and must be weighed by them.

Absent Treatment and the United States Postal Law.—The United States Circuit Court of Appeals, Fifth Circuit, reverses and remands for a new trial the case of Post vs. United States, as it is now entitled, the district court decision of which was reported on page 1659 of THE JOURNAL, June 18, 1904. There were four indictments under the United States statute which provides, in substance, that if any person, having devised or intended to devise any scheme or artifice to defraud, to be effected by either opening or intending to open correspondence through the United States mail, shall, in and for executing such scheme or artifice, or attempting to do so, place or cause to be placed any letter, etc., in any postoffice of the United States, such person shall, on conviction, be punished, etc. The gist of the scheme or artifice charged in each of the first three indictments was that the accused in this case advertised to practice mental healing, and received pay to treat patients "when she did not intend to administer any treatment." The court says that the evidence not tending to sustain the charge that she did not intend to administer the advertised treatment for which she was paid, a verdict of not guilty should have been directed on these indictments. If the accused intended to administer and did administer the treatment she advertised, she was not guilty of the fraud charged, although the treatment might be in fact valueless. The mere allegation that she was engaged in the business of mental healing was not an allegation of a "scheme or artifice to defraud."

In the fourth instruction there was a distinct charge that the representations made by the accused as to her ability to cure, etc., were false, and were well known to her to be false; that her promised treatment was ineffectual for the cure of any disease. It did not present a question of the lawfulness of the calling of a mental healer, or whether or not mental science is a fraud and humbug, but it presented the question of the good faith of the accused. The case, the court says, should be tried with the distinct understanding that the practice of mental healing is, in federal law, as lawful as healing with drugs. The question involved her belief in her representations and promises. While her belief was not the subject of direct proof, it might be ascertained from circumstances and by the proof of her actions and declarations. If her method of treatment was as baseless as mundane astrology, it made no difference, if the accused believed in it and practiced it in good faith and without positive intention to defraud. If, without belief in her professions or proposed treatment, and with knowledge that her representations were false, she made them to defraud, the fact that mental healing is a lawful vocation did not protect her.

In a criminal trial, where the defendant's only plea is "Not guilty," the general rule is unquestioned that the burden of proof, and the obligation to convince the jury of the prisoner's guilt beyond a reasonable doubt, as to all essential matters, including the criminal intent, is on the prosecution throughout the trial. This being the law, it was error, the court thinks, to instruct the jury, in any aspect of the case, that the burden of proof rested on the accused to satisfy the jury that she possessed the power to cure diseases, as claimed, and that her contention must be satisfactorily proved. It was one of the affirmative averments of the indictment that the representations made by the accused were false and not capable of performance by her, and the burden was on the United States to prove it.

Another point that the court makes is that, under the practice of the federal courts, the judge may express his opinion as to the weight or effect of evidence or the credibility of witnesses; but, if evidence is admitted as, and is, legal and relevant, the jury should not be peremptorily directed to ignore it. The court says that it is not holding that the accused had a right to embark in a business, and to insist that its illegality should be tested by principles beyond the understanding of others, and not by such knowledge as the courts and juries possess. The case must, of course, be tried and tested by the rules of law and by common human understanding. But when a question of fact is tested, although it may involve the existence of a power not generally recognized, evidence bearing on the question must be considered as in other cases. Science has not yet drawn, and probably never will draw, a continuous and permanent line between the possible and impossible, the knowable and unknowable. Such line may appear to be drawn in one decade, but it is removed in the next, and encroaches on what was the domain of the impossible and unknowable. Advance in the use of electricity, and experiments in telepathy, hypnotism and clairvoyance, warn us against dogmatism. The experience of the judiciary, as shown by history, should teach tolerance and humility, when we recall that the bench once accounted for familiar physical and mental conditions by witchcraft, and that, too, at the expense of the lives of innocent men aand women. In that day, it was said from the bench that to deny the existence of witchcraft was to deny the Christian religion. Juries would have done better. Then and now questions of fact were best tried by jury.

Finally, the court says, that in dealing with the issues raised by the record, it did not intend to express any opinion as to the substantiality of mental science, or whether it is founded on some occult natural law or on mere parade and mummery. The court is not a society for psychical research, charged with the duty of forming and announcing opinions on that subject. It endeavored only to make it plain that there was nothing in this case to require a departure from the ordinary rules of evidence and familiar criminal procedure.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

May 6.

1 *Railway Spine. E. R. Angell, Rochester, N. Y.
2 *Treatment of Non-malignant Diseases by the Roentgen Ray. R. H. Boggs, Pittsburg, Pa.
3 To What Extent are Cycloplegics Necessary in Determining the Refraction of the Eye and in the Prescribing of Lenses. F. Van Fleet, New York.
4 *Nasal Conditions Dependent on the Generative Organs. J. Sinexon, Philadelphia.
5 *Septic Thrombosis of the Femoral Vein, Following Influenza. D. F. Talley, Birmingham, Ala.
6 Sporadic Cretinism. Observations Based on Sixteen Personal Cases. E. M. Sill, New York.

1. **Railway Spine.**—This subject is discussed by Angell, who says that railway spine is a convenient and picturesque term which has hypnotized juries, as even the shock has hypnotized the plaintiff. It is dramatic, but not accurate. The damage done is not to the spine or spinal cord, but to the mind. It is a psychical disorder, not a physical one, and it is caused by a very real injury, a shock to the mental synthesis, producing

as definite symptoms for the time being as though a leg or an arm had been cut off. The proper treatment is isolation—absolute removal to the well regulated discipline and care of a hospital, where all influences make toward recovery.

2. **Roentgen Ray in Non-Malignant Disease.**—The time has come, says Boggs, when a line should be drawn between those cases that should and those that should not be treated by the Roentgen ray. It should be the physician's object to treat every patient with the therapeutic agent that is the most effective and produces a cure in the shortest time. Boggs urges: 1. That it is necessary to distinguish between the non-malignant diseases which should, and those which should not be treated by the *x*-ray. 2. That while the continual cry of technic may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator accounts largely for successful or unsuccessful work. 3. That it is just as essential to administer a therapeutic dose when applying the Roentgen rays as it is when prescribing powerful drugs. 4. That idiosyncrasy is not a frequent cause of excessive dermatitis. 5. That a dosage which causes a stimulation of healthy tissues will usually produce a slight reaction in diseased tissues. 6. That at all times it should be remembered that it is not so much the *x*-ray that cures as the judgment with which it is employed. 7. That the *x*-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method. 8. That the *x*-ray, supplemented by Finsen light, is the most efficient therapeutic agent for the treatment of lupus. 9. That the *x*-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease and selected cases of goiter.

4. **Nasal Conditions and the Generative Organs.**—Sinexon directs attention to the following points: 1. Turgescence of the nasal mucous membrane always occurs during coitus. 2. There also exists a marked degree of hyperesthesia of the nasal mucous membrane. 3. A more or less marked periodical engorgement of the nasal mucosa occurs in females coincident with menstruation. 4. This same engorgement also occurs periodically during pregnancy, demonstrating that it is not dependent on the menstrual flow. 5. Operations which destroy the functions of the generative organs cause the nares to return to the state which existed prior to the advent of puberty. 6. In lower animals sexual excitement is always accompanied by occlusion of the nares. 7. This engorgement in the human family may result in epistaxis or hydrorrhea. 8. The continued overstimulation of the nasal mucous membrane from sexual perversion results in a relaxation of the same through vasomotor paresis. 9. The long-continued hypernutrition from frequent or inordinate congestion will in time produce permanent tissue changes either of hyperplasia or atrophia. 10. These conditions are in no way dependent on hysteria or neurasthenia.

5. **Septic Thrombosis Following Influenza.**—In the case reported by Talley, the venous thrombosis began on the fourteenth day of the disease, when a marantic state of the patient was impossible. It began with recurrence of fever, which lasted four days, ended with crisis, and resembled throughout an influenza fever. The thrombosis of the femoral vein, therefore, could not be interpreted as a marantic thrombosis, but as a new development (sequela), which appeared under new febrile symptoms. The symptoms were clear, characteristic, but not severe; the disappearance of the thrombosis favorable and relatively quick.

American Medicine, Philadelphia.

May 6.

7 Methods of Inducing Labor. B. C. Hirst, Philadelphia.
8 Adulteration of Drugs. H. W. Wiley, Washington, D. C.
9 *Combined Operation of Arthrodesis and Transplantation of the Tendon of the Extensor Proprius Hallucis for the Relief of Flat Foot. H. A. Wilson and R. V. Patterson, Philadelphia.
10 *Diet in Typhoid Fever. J. B. Nichols, Washington, D. C.
11 Remarks on the Causation and Diagnosis of Hepatic Cirrhosis. J. K. Crook, New York City.
12 *Benign Strictures of the Esophagus; Report of Cases. C. D. Spivak, Denver, Colo.
13 Gynecologist and the General Surgeon; Their Respective Fields. B. H. Wells, New York.

9. **New Operation for Flat-foot.**—Wilson and Patterson present a favorable report of a new operation for flat-foot which they have employed, consisting of an arthrodesis of the astragaloscaphoid joint and the transplantation of the tendon of the extensor proprius hallucis through a hole drilled in the scaphoid bone, an adaptation of Wolf's operation for paralytic valgus. The loss of function of the transplanted extensor of the great toe is but temporary, and until the extensor brevis digitorum becomes educated to overcome the toe-drop. The after-treatment consists of well-adapted physical culture drills. This procedure has yielded better functional results than is possible by the use of arthrodesis alone. The combined operation offers no serious difficulties, the additional damage to the structures of the foot necessitated by this procedure is inconsiderable, the time required for treatment not longer, and the results obtained more certain and satisfactory.

10. **Diet in Typhoid.**—Nichols advocates a more liberal and more varied diet in typhoid than is now customary. He is opposed to the exclusive liquid diet so-called, arguing that liquid foods are not necessarily more digestible or less irritating to the bowel than are solid foods. He believes the consistency and condition of the food in the intestine is a criterion of more importance than the fluidity or solidity of the food before ingestion. Nichols gives the published results obtained from mixed and liberal feeding in typhoid, covering a total of 1,000 cases, with 77 deaths. This low mortality of 7.7 per cent. does not bear out the common apprehensions as to the dangers of departure from milk diet. Complications were not increased by the free diet. The patients were markedly more comfortable and contented, their strength appeared better maintained, convalescence was materially shortened, and from the improved resistant power the mortality rates appeared appreciably lowered, comparative statistics showing an improvement in the death rate of from 2 to 4 per cent.

12. **Benign Strictures of Esophagus.**—Spivak divides benign stricture of the esophagus into (1) congenital and (2) acquired. Acquired stricture may be divided into: 1. Organic; (a) after ingestion of corrosive substances; (b) after the healing of an esophageal ulcer; and (c) lues. 2. Mechanical; (a) presence of foreign bodies; (b) polypi; and (c) thrush. Due to compression from without, as tumors, enlarged lymphatic glands, aneurism of the aorta, periesophageal abscess; and verticulum of esophagus filled with food. 3. Spasmodic. The majority of all cases of benign stricture are due to cicatricial obliteration, the result of losses of substance, following scalds, produced by caustic substances. Spivak says the symptoms especially referable to deglutition are: (1) a short period at the beginning when swallowing is impossible—the period of esophagitis—followed by (2) a period lasting several months, when deglutition is not impeded, and (3) a period when the difficulty of swallowing gradually redevelops—the period of stenosis. During the inflammatory period he advises rest; alkalies in acid poisoning, and vice versa, ice to the sternum, and stimulants. Gradual dilation should be employed early. Conic, semisolid elastic esophageal bougies should be used. Metallic or whalebone sounds with olive tips should be avoided. The bougie should be left in the esophagus for several minutes. At first the sound should be passed every day, and later every other or third day. When dilation is complete, a bougie should still be passed at intervals of one month to prevent relapse. He reports three cases.

Medical Record, New York.

May 6.

14 *System and Expedition in Office Practice, Office Plans and Details. R. L. Dickinson, New York.
15 *Present Limitations of Serum Therapy in the Treatment of Infectious Diseases. H. W. Berg, New York.
16 Present Status of Roentgen Ray Therapy. R. H. Boggs, Pittsburg, Pa.
17 Rectal Abscess Containing Gonococci Without Any Accompanying Gonorrhea. F. R. Sturgis, New York.
18 *Cause of Cerebrospinal Meningitis. S. J. Maher, New Haven, Conn.
19 *Scissors for Cutting Secondary Membranous Cataracts. E. L. Oatman, Brooklyn.
20 Primary Epithelioma of the Epiglottis. D. B. Delavan, New York.
21 *Emergency Poisoning Case. J. W. Wainwright, New York.

14. **System and Expedition in Office Practice.**—R. L. Dickinson discusses numerous methods by means of which it is

possible for the physician to economize time in office work and so increase his capacity for work.

15. **Limitations of Serumtherapy in Infectious Diseases.**—Berg reviews the principles underlying the production of antitoxic and antibacterial sera and their therapeutic application. The bacteria concerned in the production of the specific infectious diseases fall into three classes. First, those which, like the bacilli of diphtheria and of tetanus, produce a virulent, a real toxin which is set free in the culture media. Second, those bacteria which secrete but little or no free toxin, but do contain a powerful endotoxin, which is partly liberated only on the death and disorganization of the bacterial cells; good examples of this class are the pneumococcus, typhoid bacillus, the streptococci, etc. Third, those bacteria that produce no free toxins nor have the bacterial cells endotoxins of any power, but in which the cell plasma contains other poisons in addition to the protein poisons common to all bacterial cells. The most important member of this group is the tubercle bacillus. Against the first group the antitoxic sera are available, but their success depends largely on the interval of time that has elapsed since the infection began, for the antitoxin can bind only such toxin as has not yet had time to enter into combination with the body cells. In tetanus the poison becomes fixed in the central nervous system so rapidly that the serum has little chance for effect. The difficulty with the antibacterial sera is that the body's supply of alexin is very small, so that theoretically the injection of the serum should be accompanied by an additional dose of fresh normal animal serum to supply this deficiency; an impracticable procedure. The attempts to treat one disease by means of the antiserum of another, as has been attempted by injecting diphtheria antitoxin in pneumonia and cerebrospinal meningitis is repugnant to the principles of scientific serumtherapy and tends to discredit its principles. The use of Moser's antistreptococcus serum in scarlet fever in the Vienna hospitals has not given results equal to those obtained by the author in the Riverside Hospital, following the classical lines of treatment. The introduction into the body of a child of the large amounts of serum required by Moser's plan is also objectionable, owing to a possible hemolytic action.

18. **Cause of Cerebrospinal Meningitis.**—Maher describes cultural and animal experiments undertaken with pus from the spinal canal of an adult sick with cerebrospinal meningitis. The results lead him to conclude that the diplococcus of Weichselbaum is only one phase in the life cycle of an organism, which at times is larger and rod shaped, at others small and of the shape of the pneumonia diplococcus, and probably at others of yeast shape.

19. **Scissors for Cutting Secondary Membranous Cataracts.**—Special scissors have been designed by Oatman to be used for cutting the membranous bands which sometimes form after cataract extraction. One point is blunt and the other, which is sharp, is ground to a knife edge on its back, so that after introduction into the anterior chamber it may easily perforate and pass below the membrane.

21. **Emergency Poisoning Case.**—The case gotten up by Wainwright is compact and handy, neatly finished in black leather, with a substantial handle. Its outside dimensions are 12 inches long, 4¼ inches wide, and 6 inches high. The contents are as follows: One stomach tube, one tongue forceps, one mouth gag, one 2-oz. glass syringe, one hypodermic syringe. It also contains large bottles of magnesium sulphate, of zinc sulphate in 20-grain powders, powdered mustard, calcined magnesia, and chloroform. The 1-oz. vials contain amyl nitrite, alcohol, dialyzed iron, acetic acid, oil of turpentine, and aromatic spirits of ammonia. The ½-oz. vials contain powdered ipecac, powdered opium, potassium bromid, chloral hydrate, potassium permanganate. The hypodermic tablets are of strychnin sulphate, morphin sulphate, muriate, apomorphin hydrochlorate, nitroglycerin, digitalis, and atropin sulphate. It is believed that this emergency poisoning case contains practically all the essential means for carrying on a successful fight against the effects of poison in the human system. The case also contains a manual on acute poisoning, giving special symptoms, simple tests, chemical antidotes, physiological antagonists and treatment.

Boston Medical and Surgical Journal.

May 4.

22 *Certain Aspects of the Differential Diagnosis Between Epilepsy and Hysteria. J. J. Putnam and G. A. Waterman, Boston.
23 *Subacute Perforation of the Stomach, with Report of Three Cases. F. B. Lund, Boston.
24 *Senile Epilepsy. G. K. Collier, Sonyea, N. Y.

22. **Epilepsy and Hysteria.**—Putnam and Waterman report eleven cases to show how difficult the differential diagnosis between hysteria and epilepsy may occasionally be, and how much injustice the physician is liable to do his patients unless he keeps himself ready to revise his judgments. The authors suggest that the neurological staff of every dispensary and hospital should embrace one or more members skilled in psychopathic researches, by whom all doubtful cases should be reviewed from time to time. Although it is correct, in general, to say that the diagnosis of so-called idiopathic epilepsy is considerably more grave than that of hysteria, and that these two affections represent different tendencies, yet this statement should not be taken as absolute without qualification. It is probable that the term epileptic, as implying a tendency to outbreaks of certain sorts, covers a variety of pathologic tendencies, and the mere form of the attack does not always enable us to distinguish between them. Thus, epileptic fits as seen in cases of brain tumor may be indistinguishable in themselves from those met with in cases exhibiting the familiar degenerative tendency associated with the name of epilepsy in general. Again, degeneracy itself is by no means always present in epileptic conditions, even those classified as idiopathic. We know too little of the physiology of the epileptic seizure, in its varied forms, to be able even to say there is a sharp distinction to be drawn between such an attack as occurring in hysteria and another which might be found in epilepsy proper. However much we may believe these two forms to be different, it is impossible at present to give the ground for our belief.

23. **Subacute Perforation of the Stomach.**—From a study of his own and recorded cases, Lund draws the following conclusions: 1. The symptoms of subacute perforation of the stomach are similar to those of acute perforation, with the important exception that they are less violent and are not followed by collapse or by the development of general peritonitis. 2. The location of the pain and tenderness depends on the location of the ulcer and varies with it. 3. The treatment should be, if possible, posterior gastroenterostomy without breaking up the protective adhesions. A case of ulcer of the stomach, gallstones or ulcer of the colon that has gone on sufficiently to threaten perforation, is certainly in a condition to be benefited by no other treatment than the operative. The treatment of an open perforation is manifestly to invert the edges of the ulcer and close it by suture. The ulcer has already perforated into the general cavity and the peritoneum is soiled. In these subacute perforations, however, nature has already closed the perforation, and if we can get along without tearing the adhesions, opening up the ulcer and soiling the healthy peritoneum, we give our patient a distinctly better chance. In case the ulcer is on the anterior surface or lesser curvature and is to the right of the median line, and the adhesions are to the inferior surface of the liver, there is nothing to prevent turning up the posterior surface of the stomach and performing a posterior gastroenterostomy without breaking up the adhesions, opening the ulcer, or soiling the cavity with stomach contents. We provide internal instead of external drainage for the ulcer, and we operate in a region where the peritoneum and gastric wall are healthy instead of inflamed, and where our opportunity of getting perfect healing is the best. And last, but not least, we give the best treatment to the underlying condition of chronic ulcer to which the perforation has been due.

24. **Senile Epilepsy.**—Collier gives the histories of five cases of epilepsy in which the onset occurred between the forty-sixth and sixty-fifth years.

New York Medical Journal, New York.

May 6.

25 Politico-Sociological Aspects of Tuberculosis Problems. J. Wright, New York.
26 *Dietetic Exercises in Infant Feeding. E. K. Shelmerdine, Philadelphia.

27 Inflammation of the Glands of Bartholin. C. C. Miller, Chicago.
28 Immediate Abdominal Section. D. Lewis, Chicago.
29 Adenoids in the Adult. D. M. Barstow, New York.
30 *Operation for the Cure of Chronic Bursitis, Especially Adapted to Housemaid's Knee. P. Hoffmann, St. Louis.
31 *Remarks on the Problems Connected with the Study of Pulmonary Tuberculosis; and Suggestions of a New Plan for Improving Statistics Relating to the Disease. E. L. Shurly, Detroit.

26. Infant Feeding.—Shelmerdine classifies infants requiring artificial feeding into three groups: 1. Easy cases. 2. Difficult cases. 3. Very difficult cases. Two tables are given showing the method of milk modification adopted by the author, and the diet suitable for the cases, as classified, is described at length.

30. Operation for Chronic Bursitis.—The operation devised by Hoffmann for the cure of this condition consists of puncturing the bursa, thoroughly scarifying its walls, expressing its fluid contents, bringing its walls in contact, and holding them so by means of a compress until their raw surfaces have grown together and have thus obliterated the cavity. No anesthetic need be given as the operation is practically free from pain, except that produced by puncturing the skin. The patient need not be confined to bed or even use crutches during the after-treatment, and may attend to almost any tasks, except such as require kneeling.

31. Tuberculosis Problems.—That some feasible plan for securing reliable statistics relating to pulmonary tuberculosis is an absolute necessity for the solution of the scientific problems at hand, no practitioner will deny. But how to get such information in conformity with the rights of the patient, the public at large, and the practitioner, under our form of civil government is a serious question. To this end, Shurly suggests the following outline of a plan for consideration: First, let the registered medical profession of the state nominate (by epistolary vote, sent to the secretary of state) nine of their number, from whom the governor shall appoint three to become a board of review (or a body otherwise named). Second, this board shall be created by statute (of the legislature) with power to demand and receive reports from all practitioners, containing such practicable data as the board may dictate. Third, this board's proceedings, books, papers, and files, in so far as the persons reported to them are concerned, shall be wholly in its custody, considered as confidential, and absolutely inaccessible to the public, the press, or the courts. Fourth, each month this board shall make an abstract of the communications received in schedule or detail form, and transmit such abstract without names to the state board of health, which shall publish the same quarterly for the edification and instruction of the medical profession. It would seem as though such a plan would meet the insuperable objection of making public any patient's name, family, or clinical history and give us data devoid of supplication, error of diagnosis, or other common error. Beside, no thoughtful, reasonable physician would object to making reports to such a constituted board.

St. Louis Medical Review, St. Louis, Mo.

April 29.

32 New Therapeutic Measures in Neurology. S. I. Schwab, St. Louis.
33 Contribution to the Etiology of Nervous Affections. T. H. Evans, Philadelphia.

American Journal of Medical Sciences.

May.

34 *Action of Electrically Charged Copper on Certain Organisms in Water. M. E. Pennington, Philadelphia.
35 *Studies on Bactericidal Action of Copper on Organisms in Water. N. Gildersleeve.
36 *Study of the Action of Colloidal Solutions of Copper on Bacillus Typhosus. A. H. Stewart, Philadelphia.
37 Glioma of the Nose. J. P. Clark.
38 Case of Cerebrospinal Rhinorrhea, with Retinal Changes. S. I. Schwab and J. Green, Jr., St. Louis.
39 Case of Mind Blindness. W. A. Holden.
40 *Purpura Hemorrhagica. T. W. Hastings, New York City.
41 Two Cases of Chronic Splenic Anemia, One with Achylia Gastrica. I. H. Levy, Syracuse, N. Y.
42 *Clinical and Pathological Report of a Case of Splenic Anemia. H. L. Sanford and D. H. Dolley, Cleveland, Ohio.
43 Sarcoma of the Small Intestine. E. Libman, New York.
43½ *Clinical Aspects and Differential Diagnosis of Appendicitis and Typhoid. C. G. Cumston, Boston.
44 *The Law and the Doctor. C. S. Patterson, Philadelphia.
44½ *Observations on Aneurism and Arteriosclerosis. C. N. B. Camac, New York City.
45 Case of Laminectomy for Gunshot Wound on the Spine. J. P. Marsh, Troy, N. Y.
46 Gonorrheal Urethritis with Unusual Complications. D. Crosby.

34. Action of Copper on Bacteria.—Experiments conducted by Pennington for the purpose of determining the action of electrically charged copper plates on certain pathogenic germs suspended in water have shown that copper electrodes carrying a small current are actively germicidal for the typhoid and colon bacilli. The experiments seem to indicate a balance in favor of a large copper surface with which the organisms come in contact, rather than the actual copper content of the water.

35. Id.—Gildersleeve has also been investigating this subject, and found that dilute solutions of copper salts have a marked destructive action on many bacteria. Of these salts the sulphate is the most active, probably because it undergoes electrolytic dissociation more readily than the others.. The amount of sulphate to be used in the water should be from one part in 250,000 to one part in 100,000, depending on the character of the water. Colloidal copper will quickly destroy certain bacteria; should copper vessels or plates be used to destroy bacteria in water, they must be kept highly polished or the bactericidal property will be greatly reduced. There is no evidence at hand showing that copper, ingested in small quantities for long periods, has a detrimental action on the health of the individual.

36. Action of Colloidal Solutions of Copper on Typhoid Bacilli.—This study was carried on by Stewart of the bacteriological laboratory of the Bureau of Health of Philadelphia. Trials were made as to the period of total disappearance of typhoid organisms which had been placed in sterile Schuylkill water and in that taken directly from the tap, and from the river surface containing large numbers of water organisms. These waters were placed in vessels of glass, porcelain, tin and copper and their contents kept at room temperature were plated every fifteen minutes for periods ranging from three to six hours. All the experiments were repeated many times. Sterile drinking water in clean copper vessels inoculated with typhoid bacilli invariably showed that the bacilli had all perished in one hour. Water similarly treated in tin vessels invariably showed living organisms at the end of twenty-four hours. Water similarly treated in glass vessels exposed to light showed varying results, but in no instance had the typhoid organisms all perished in three hours. Water similarly treated in enamel vessels showed a slight diminution of the number of typhoid organisms in three hours. Water similarly treated in aluminium vessels showed a disappearance of the typhoid organisms in three hours. Raw tap-water in glass vessels showed an increase in the number of organisms in three hours; occasionally, there was a slight diminution in their number. Raw tap-water in copper vessels in one experiment showed a diminution from 384,000 germs per cubic centimeter to 18,000 per cubic centimeter in three hours. Usually the diminution was not so great. Raw tap-water containing large numbers of river organisms and considerable vegetable matter, when inoculated with millions of typhoid organisms and placed in a copper vessel, showed that the typhoid bacilli were killed off in one and three-fourths hours to two and one-half hours. Water containing colloidal copper has a more rapid tonic action on typhoid organisms than on river water organisms. The quantity of colloidal copper given off from a one-liter copper vessel in three hours was one part to four million. This amount killed off the added typhoid organisms in from one and three-fourths to two and one-half hours, and chemical experience has shown that this amount of colloidal copper is harmless when taken into the human system. In epidemics of typhoid fever, Stewart concludes that water could be purified of typhoid organisms by allowing it to stand in a copper vessel for three hours.

40. Purpura Hemorrhagica.—Hasting's case is of interest because of the close resemblance of the clinical course to cases of acute leukemia, and in this connection he calls attention to the fact that not infrequently cases of purpura are reported in the literature as cases of leukemia. The acute condition, swelling of the right tonsil, the high percentage of lymphocytes in the peripheral circulation suggested the possibility of acute leukemia with an intercurrent infection from the right tonsil gives rise to a well marked leucopenia. However, the evident absence of tonsillitis before admission, the sore throat

occurring a few days later; the absence of pallor at any period preceding the first attack of epistaxis; absence of glandular and splenic enlargement; the persistent bleeding from the bowel, gums and nose; the purpuric eruption from the onset of the condition suggested Werlhof's disease rather than acute leukemia.

42. **Splenic Anemia.**—The case reported by Sanford and Dolley was of long duration, with gastro-intestinal disturbances, and pain in the splenic region; recent severe and repeated hemorrhages by stool and vomitus following traumata; blood findings characteristic of secondary anemia of the chlorotic type, without leucocytosis, and with no general lymphatic enlargement; idiopathic splenomegaly. An exploratory laparotomy was performed, later a splenectomy, to which the patient succumbed. The pathologic findings at the autopsy were as follows: Dislocation of the spleen, with marked elongation and torsion of its vessels and thrombosis; chronic passive congestion and fibrosis of the spleen; interlobular atrophic cirrhosis of the liver; chronic passive congestion of rest of portal system; compensatory hyperplasia of hemolymph nodes; hyperplasia of the bone-marrow, secondary anemia; moderate diffuse emphysema of the lungs; tuberculosis of bronchial and tracheal glands. The authors believe that the patient's previous history of pallor, digestive disturbances, and pain in the splenic region, symptoms of which there is a history extending over a number of years, strongly suggest the early stage of a splenic anemia. The frequent urination and the pain in the splenic region also would imply a long-standing dislocation of the spleen. This is corroborated by the enormous elongation of the splenic vessels. Whether or not all the twists in the splenic veins occurred at the time of the two accidents the patient had, it is impossible to state, but it is at least more reasonable to suppose that from their multiple character they did not all occur at one time, but that some had existed previously. The thrombosis of the splenic vessels must have been the cause of the sudden enlargement of the spleen while the patient was in the hospital. The lack of organization in the thrombi of the vessels removed at the splenectomy proves this. If Banti's stage of splenic anemia is limited only to those cases in which the cirrhosis is a terminal manifestation, this case can not be included in that category, for the cirrhosis of the liver is certainly of as long standing as the fibrosis in the spleen. Sanford and Dolley prefer to regard the case as one of splenic anemia associated with a cirrhosis of the liver, not as a result of the process in the spleen, but rather accompanying it. The enormous elongation and torsion of the vessels associated with the dislocation of the spleen possess a very probable etiological significance in this case.

43½. **Appendicitis and Typhoid.**—Cumston discusses the differential diagnosis of these affections under four heads, as follows: 1. Analysis of the clinical symptoms. 2. Examination of the urine. 3. Examination of the blood. 4. Widal's sero-diagnosis, but offers nothing new. He says that every time an appendicitis exists, either alone or associated with typhoid, an operation is indicated. Interference is contraindicated only in cases of simple typhoid, or one associated with symptoms arising from the appendix, but which are so slight that they can not be considered as due to a true case of appendicitis.

44. **Law and the Doctor.**—Under this title, Patterson discusses the various relations with the law into which the doctor is brought by reason of his profession and his practice. He formulates three practical conclusions: In the first place, it is the duty of every good citizen to obey the law, and this duty is in a high degree incumbent on members of all learned professions whose education and training may properly be supposed to raise them above the common mass of people, and to give to them a higher sense of duty. If, therefore, there be in the law any regulation which seems to do injustice to the interest of your profession, or to yourself, work and agitate for the reformation of the law; but, so long as the regulation be in force, faithfully obey it. In the second place, remember that it is as foolish for a medical man to undertake to determine for himself what the law is on any subject, as it is a lawyer to attempt to prescribe for the bodily ills of himself or of any other person. Therefore, whenever you are in any way brought face to face with law, consult a lawyer, and do it promptly, for it is as true in law as in medicine, that "an ounce of prevention is," if it be not too late to prevent, "better than a pound of cure." In the third place, as legal restrictions and professional ethics touch at many points, it is wise for every young doctor to form such relations of mutual confidence and regard with one or more of the seniors of his profession, that he can obtain for himself the great benefits of a senior's advice, when questions of professional expediency present themselves. Remember that every profession has its traditions, in which is crystallized the wisdom of its past; and that seniors who have risen to eminence, and who have that soundness of judgment which the young, however learned and able, rarely have, can best determine when it is not judicious to depart from those traditions.

44½. **Aneurism and Arteriosclerosis.**—Camac summarizes his findings as follows: 1. Arterial disease appears to be rare, almost unknown in animals. Syphilis, being probably peculiar to man, is by this observation placed more firmly in the list of etiological factors. 2. Arterial disease in children under six years, even in those who are victims of congenital syphilis, is practically unknown. In those from six to fifteen years it is rare. It is found in the initial stage most commonly between the ages of thirty and forty years. 3. The teratologic factor, though an undeterminable one, is of great importance. 4. Arterial disease seems to be attributable to syphilis in about 32 per cent.; to tuberculosis in about 16 per cent. 5. The facts presented go to show that the colored race is affected about four times more frequently than the white. 6. General arteriosclerosis seems to be not commonly found with aneurism and its presence may be considered as evidence against the probable development of aneurism.. 7. Staining with selective stains, and treating with a chemical which digests tissue, shows the elastic tissue to be free of histological alterations, suggesting that this tissue undergoes physical or molecular rather than histologic change.

St. Paul Medical Journal, St. Paul, Minn.

May.

47 Exploratory Incision in Cases of Suspected Malignant Disease of the Abdominal Viscera. C. G. Cumston, Boston, Mass.
48 Chronic Urethritis in Women. J. L. Rothrock, St. Paul, Minn.
49 •Appendicitis, with Special Reference to This Disease in Women. A. MacLaren, St. Paul, Minn.
50 Death Returns in Minnesota for 1904. H. M. Bracken, Minneapolis.
51 In Memorium: Nathan Smith Davis as a Man. E. C. Dudley, Chicago.

49.—See abstract in THE JOURNAL, Jan. 21, 1905, page 238.

Southern Medicine and Surgery, Chattanooga, Tenn.

May.

52 Acute Septic Osteitis. J. L. Crook, Jackson, Tenn.
53 Functional Disorders of the Biliary Secretion and Their Treatment. H. Richardson, Baltimore.
54 Clinical Significance of Ascites. R. Wallace, Chattanooga, Tenn.
54½ Conservative Gynecology. C. R. Robins, Richmond, Va.

Journal of Medical Research, Boston, Mass.

May.

55 Biology of the Micro-Organism of Actinomycosis. J. H. Wright, Boston.
56 Reaction Curve of Tubercle Bacilli from Different Sources in Bouillon Containing Different Amounts of Glycerin. T. Smith, Boston.
57 Variations in Virulence in Organisms Acted on by Serum, and the Occurrence of Spontaneous Agglutination. E. Steinhardt, New York City.
58 Changes in the Bacterial Content of Water in Passing Through a Distributing Reservoir. B. G. Philbrick, Boston.
59 Intracellular Fibrils in a Malignant Tumor of Epithelial Origin. S. B. Wolbach, Boston.
60 Cyclasterion Scarlatinale. F. B. Mallory, Boston.
61 Further Observations on the Transmission of Sarcocystis Muris by Feeding. T. Smith, Boston.

Northwestern Lancet, Minneapolis.

May 1.

62 Why We are Sometimes Obliged to Re-operate in Gallstone Cases. J. E. Moore, Minneapolis.
63 Appendicitis. R. E. Farr, Minneapolis.

Indiana Medical Journal, Indianapolis.

May.

64 Diagnosis and Treatment of Nephritis. D. L. Miller, Goshen, Ind.

65 Tumors of the Brain; Their Etiology and Pathologic Effects. G. F. Neu, Indianapolis.
66 Lumbar Exploratory Puncture. J. A. McDonald, Indianapolis.

Ophthalmic Record, Chicago.

April.

67 Diffuse Leuco-Sarcoma of the Choroid. R. H. Johnston, Baltimore.
68 Practical System of Near Test Types. D. W. Wells, Boston.
69 Difficulties Attending Diagnosis of Aseptic Foreign Bodies in the Orbit. N. M. Black, Milwaukee, Wis.
70 Pathology of Pterygium. R. H. Johnston, Baltimore.

Montreal Medical Journal.

May.

71 Adaptation and Tuberculosis. J. G. Adami.
72 Pathologic Conditions of Clinical Interest Associated with Movable Kidney. J. M. Elder, Montreal.
73 Microphthalmus: Persistent Pupillary Membrane: Anterior Synechia and Central Opacity of the Cornea. J. W. Stirling, Montreal.
74 Case of Congenital Absence of the Vagina and Uterus: Artificial Vagina: Subsequent Operation for Appendicitis. A. L. Smith, Montreal.
75 Unusual Case of Thyroidectomy. F. J. Shepherd.
76 Jubilee of Laryngology. H. S. Birkett, Montreal.

California Medical and Surgical Reporter, Los Angeles, Cal.

May.

77 Nature and Treatment of Epilepsy. E. Wing, Los Angeles, Cal.
78 Diphtheritic Anti-Toxin Treatment for Cerebrospinal Meningitis. L. Roth, Los Angeles, Cal.

Albany Medical Annals.

May.

79 Cancer of the Uterine Cervix; Its Classification and Extension. J. A. Sampson, Albany, N. Y.
80 Abdominal Pain from Adhesions. C. G. Cumston, Boston, Mass.
80½ Blood Pressure. W. Kirk, Jr.

Archives of Physiological Therapy, Boston.

April.

81 Static Electricity in Chronic Nephritis: A Recapitulation. C. S. Neiswanger, Chicago.
82 Therapeutic Application of the Continuous Current. T. A. Pease, Norwood, N. Y.
83 Case of Hyperidrosis Axillæ Treated by X-Rays. G. H. Stover, Denver.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

April 22.

1 Determination of Arterial Blood Pressure in Clinical Practice. C. J. Martin.
2 Case Simulating Intracranial Tumor. T. R. Glynn.
3 *Arthritis Deformans and Its Allies. B. Abrahams.
4 *Medical Treatment of Insanity. R. Jones, Claybury.
5 Inquiry Into the Existence of Typhoid Fever in Bermuda. L. Kilroy and F. W. Hooper.
6 *Corneal Reflex in Anesthesia. L. K. Thomas, London.

3. **Arthritis Deformans and Its Allies.**—Abraham directs attention to the clinical features of the various affections which are ordinarily grouped under the name of rheumatoid arthritis, a term which he regards as being unscientific. These conditions are: (*a*) The children's disease described by Still; (*b*) the acute process occurring in young women; (*c*) the familiar multi-articular affection of middle-aged women, and (*d*) the well known chronic malady of the aged.

4. **Medical Treatment of Insanity.**—In the acute stage of no disease, says Jones, is care and attention more necessary, nor more expensive, nor is there more hope of cure than there is in the early stages of insanity. It is essential to prevent exhaustion and to maintain the patient's strength by giving unirritating foods, easy of digestion, frequently and in small quantities. Plenty of sleep is necessary. For this purpose sedatives and not hypnotics should be given. When there is delirium and when the pulse is full, bounding and firm, and there are symptoms of sthenic inflammation, venesection may prove beneficial. The wine of tartarated antimony for furious excitement, with vascular and cerebral congestion, especially when combined with morphin, is very effective. Aconite ice bags to the head, and continuous immersion are also useful. As a form of electric stimulation, electricity administered in the form of currents through water at 100 F. given daily, or several times a week, for about 10 to 30 minutes, is particularly commendable. For controlling motor excitement, succus condii in doses of from 10 minims to one dram, is efficient. It is best to begin with small doses and to combine these with strychnin or some other cardiac stimulant. As to hypnotics, for the cure or relief of insomnia, paraldehyd, in doses of one-half dram to two drams, is the safest. It is not recommended in lung affections. Hyoscin, or hyoscyamin combined with morphin, are effective for excitement and sleeplessness. However, the bromids are the most useful. They may be combined with chloral and tincture of hyoscyamus, when these are not contraindicated. In cases of so-called hysterical insanity, Jones mentions, as a possible remedy, the use of thorium hydroxid, 500 grams to be placed in a cap over the head, worn day and night. This drug possesses radio-active properties. Jones says two of his cases recovered under such treatment. Laxatives and purgatives are absolutely necessary, and in free doses, usually twice the amount required by a healthy person. The action of the skin should be assisted. This is done best by out-door exercise. Speaking of alcohol, he says that in the great majority of cases of insanity it is not essential, but he does not hesitate to use it in small doses, every few hours, in the exhaustion of acute mania, more especially in the puerperal form of insanity. It often interferes with digestion, and it is always best administered with liquid nourishment. However, it is a dangerous remedy in the various forms of mental depression, for it gives the patient a feeling of buoyancy and stimulation without any lasting benefit and without the sustaining action of food. Strychnin and nux vomica are useful in cases of exhaustion from acute insanity and in cases of cerebral anemia. They should be given alternately for a few weeks, and with about one week's interval.

6. **Corneal Reflex in Anesthesia.**—According to Thomas the corneal reflex can not be depended on as a guide in the administration of anesthetics in cases requiring muscular relaxation, especially in abdominal and hemorrhoidal operations, in which moderate secondary dilation of the pupil is the best guide to complete success. He has found that there is a much greater interval of safety between the loss of the corneal reflex and the failure of respiration and heart than is generally admitted, and that the reaction to corneal stimulation varies enormously in different individuals.

The Lancet, London.

April 22.

7 *Dissemination of Mammary Carcinoma. W. S. Handley, London.
8 *Nature of Diabetes Mellitus. W. C. Bosanquet, London.
9 *Gallstones and Cancer. G. R. Slade, London.
10 Three Cases Illustrating the Condition of the Small Intestine Some Years After Extensive Enterectomies. A. E. J. Barker, England.
11 Further Note on the Relation Between Various Atmospheric Conditions and the Occurrence of Cerebral Hemorrhage. J. W. Russell, London.
12 Plague in Cats. W. Hunter, Aberdeen.
13 Suppurative Periostitis Following Typhoid Fever. L. S. Dudgeon, London.
14 *Cerebro-Spinal Manometer. F. C. Eve, London.

7. **Dissemination of Mammary Carcinoma.**—This is the third and concluding lecture delivered by Handley on this question. From the mass of material presented, he draws the following practical conclusions: If, when it transgresses the limits of the breast, cancer spreads primarily in the deep fascia, the main operative aim next, of course, to complete removal of the breast and of the axillary glands, should be the removal of as wide an area as possible of the deep fascia. And if the mode of fascial extension is by centrifugal continuous permeation, the area affected is roughly a circle, and the area of fascia removed should also be circular with its center at the point of origin of the primary neoplasm. The use of the expression "pectoral fascia" to describe the area which requires removal and the almost exclusive attention paid to the axillary glands as the channels of dissemination have led to inadequate excision of the deep fascia in a downward direction over the upper part of the abdomen. In order to prevent epigastric invasion, the usual incision should be prolonged downwards over the linea alba for about two inches, the flaps undermined, and the fascia excised as far down as a horizontal line running two inches below the ensiform cartilage, or even lower if the growth is in the inferior part of the breast. This step does not increase the shock of the operation. Excision of the overlying skin and of the underlying muscle must

be free, but need not be carried out over so wide an area as excision of the fascia, for the extension of the growth to skin and muscle is a secondary process. As to fascia, it appears that even the widest removal of deep fascia as at present carried out is deficient in the direction of the epigastrium. Owing to the fact that the abdominal muscles arise well above the costal margin, the excision of the deep fascia over the origins of these muscles, a step which forms a part of the accepted operation, does not necessarily involve any interference whatever with the epigastric deep fascia, still less such an extensive removal of it as he is advocating. Local and intrathoracic recurrence after the operation for cancer of the breast appears to take place more and more rarely in the practice of experienced surgeons—that is to say, the modern operation seems to afford a maximum of protection so far as the chest is concerned. On the contrary, it appears from statistical records that the operation for cancer of the breast as at present performed does not by any means give the maximum attainable security against abdominal recurrence. For while modern results show a diminution in the sum total of cases of recurrence, cases of purely abdominal recurrence seem to be increasing in frequency relatively to the lessened number of thoracic recurrences. And this phenomenon is clearly seen only in the results of the more successful operators—i. e., of those whose methods enable them to guard against thoracic invasion. The relative excess of abdominal recurrences associated with modern methods of operation is strikingly exhibited in the cases, upwards of 100 in number, published by Watson Cheyne. Visceral recurrence took place in 15 cases. In ten of these cases the recurrence was (clinically) abdominal, while in only five was it (clinically) thoracic. It seems almost certain that in some of these cases abdominal recurrence might have been prevented by a wider excision of the deep fascia in the epigastric region. Handley believes that a recognition of the danger of epigastric invasion and the adoption of precise means for its prevention will bring about a further appreciable reduction in the mortality from mammary carcinoma.

8. **Nature of Diabetes Mellitus.**—In concluding this series of lectures Bosanquet sums up the views suggested by him as embodying a possible explanation of the phenomena of diabetes and the arguments by which they were reached as follows: 1. Excess of sugar in the blood, which is the condition precedent of glycosuria, may be caused by over-production of sugar in the system or by diminished use or excretion. There is practically no evidence of either of these last processes. There is convincing evidence that at one stage, at all events, of diabetes there is increased production. 2. Over-production of sugar may depend on some digestive irregularity whereby more sugar than normal is poured into the blood from the food, or of manufacture of sugar from the tissues of the body. We have sufficient evidence that both these processes are at work in diabetes, in that, at first, the output in the urine can be controlled by limiting the diet, whereas later this is not possible. But, whereas there are a considerable number of conditions in which sugar appears in the urine apparently as a result of absorption of additional sugar from the alimentary canal—these conditions being identical with diabetes only in the single fact of the appearance of sugar in the urine, while they run an entirely different clinical course—it is in diabetes alone that we have at any time evidence of formation of sugar from the tissue cells of the patient. This autolytic formation of sugar, if it may so be called, is the characteristic feature of diabetes in so far as the production of sugar is concerned. 3. It involves less of an assumption to suppose that this autolytic formation of sugar is present in diabetes all through the disease than to suppose that it ensues after a time as a result of the presence in the blood of excess of the very substance—sugar—into which the cells finally break down. The absence of proof of the existence of this process in the early stages of the disease, when the glycosuria is controlled by diet, may be due to the body possessing a certain power of utilizing sugar in its nutritive processes, so that only the excess above a definite quantum appears in the urine. 4. There is sufficient evidence available to establish beyond the possibility of doubt the fact that there is some connection between the pancreas and diabetes. Although it is not yet proved, yet it is becoming increasingly probable that the pancreas is diseased in all cases of diabetes mellitus. An increasing bulk of evidence is also accumulating to show that the function of the pancreas, which is in abeyance in diabetes, is normally performed by certain special groups of cells known as the islands of Langerhans, which are distinct from the ordinary secreting cells of the gland, but which are not improbably formed from the acini. The special lesion of these islands—hyaline degeneration—which has been associated with diabetes by some writers—is not present in all cases of the disease and may be found (in a less developed state) in other conditions. 5. The action of the pancreas may be exerted in the direction either of supplying a substance necessary for the assimilation of sugar by the cells of the body, or in that of counteracting a poison which in some way causes accumulation of sugar in the blood. There is little or no evidence in favor of the former possibility; in favor of the latter there are the results of experimental intoxication with phloridzin, with suprarenal extract, and with other substances, and a few inconclusive results obtained by injection of secretions derived from diabetic patients. 6. We are not yet in a position to state with any certainty what tissue in the body gives rise to the sugar formed in diabetes. The theoretical possibility that sugar may be derived from fat is supported by certain observations which prove that a serious disturbance of the adipose tissue exists in diabetes. Further, if this hypothesis be admissible, a certain unity will be introduced into our conception of diabetes, the phenomena of which will be explicable as manifestations of a single process occurring in a single tissue. 7. Lastly, glycosuria, as opposed to diabetes, may be due to mere excess of sugar poured into the blood from the alimentary canal in excess of what the system is capable of assimilating; or it may be due to causes acting analogously to the diabetic puncture of Claude Bernard and leading to a discharge of sugar by the liver from its stores of glycogen. If, continues Bosanquet, the views here set forth are correct, it follows that in its earliest stage the diabetic process may constitute rather a predisposing cause of glycosuria than the actual cause of the phenomenon, since the breaking down of the tissue cells into sugar is at first not more than sufficient to saturate the sugar-assimilating powers of the system. At this stage a slight increase of saccharine food will produce glycosuria—an increase which in a normal person would not have this effect. Similarly a slight nervous shock, sufficient to cause the liberation of only a comparatively small quantity of glycogen from the liver, would also augment the sugar present in the blood above the point at which it appears in the urine. In such a way the onset of true diabetes might be ascribed to a shock, when in reality it was previously existent, but unnoticed. As far as definition is possible, then, diabetes might be defined as an increased internal dissociation of tissue (possibly fat) into sugar, caused by a toxic substance which is produced in the course of normal metabolism and which is normally neutralized by the pancreas.

9. **Gallstones and Cancer.**—A very interesting report is made by Slade based on cases that have come to autopsy at the London hospital during the last twenty-six months. In 2180 necropsies there were 33 cases in which gallstones were found either in the gall bladder, or where they had been removed by operation shortly before death. In 17 of these 33 cases, the gallstones were latent and were discovered only at the autopsy. In the remaining 16 cases, the gallstones and complications caused thereby were responsible for the patient's death. Carcinoma of the gall bladder was found in 30 per cent. of all cases of gallstones, and in 56 per cent. of all cases where gallstones had caused symptoms during life, and in 58.8 per cent. of all cases in which at the necropsy the wall of the gall bladder showed inflammatory thickening. Slade concludes that the association between carcinoma of the gall bladder and gallstones is very close, and that gallstones may be looked on as the determining cause of cancer of the gall bladder.. Thickening of the wall of the gall bladder is presumptive evidence of carcinomatous change. Cholecystectomy should be performed, whenever possible, if any thickening of the wall of the gall bladder be found at the time of operation.

14. **Cerebrospinal Manometer.**—The instrument devised by Eve for measuring the cerebrospinal pressure consists of the lumbar puncture needle, which is adapted, on the one hand, to a vertical graduated glass tube, and, on the other, to an exit tube closed by a spring clip, and a detachable handle. In addition to three hollow needles, suitable for children, large or small adults, the case also contains a hydrometer for measuring the specific gravity of small quantities of the cerebrospinal fluid. Just before use the whole apparatus is boiled and brought to the bedside in a dish of boiled water. The puncture is made in the usual manner. The fluid runs up the manometer tubing (the exit tube having been previously clamped) and its pressure can be read off. The needle is withdrawn when the pressure is sufficiently reduced or the requisite amount of fluid has trickled out. The apparatus shows clearly the oscillations in cerebrospinal pressure produced by the pulse and respiration. Lumbar puncture has been performed about 60 times with this instrument without any ill effects.

Journal of Tropical Medicine, London.

April 15.

15 Undescribed Form of Ulceration of the Large Intestine, probably of Amebic Origin, Causing in Some Cases Abscess of the Liver. T. C. Mugliston and G. D. Freer.
16 •Treatment of Malarial Fever by Intramuscular Injections of Quinin. L. E. Ashley-Emile.
17 Tabes Mesenterica and Ceylon Soremouth and Diarrhea. W. A. Wijeyesakere, England.

16. **Intramuscular Injections of Quinin in Malaria.**—Fifty cases of malaria have been treated in this manner by Ashley-Emile. He is of the opinion that this plan should not be adopted as a routine therapeutic measure for all cases of malaria, but should be reserved as an invaluable adjunct to the ordinary method for intractable cases where quinin can not be administered and tolerated by the mouth, as in certain remittent and pernicious types of the disease, when accompanied with excessive vomiting and pronounced nervous symptoms, with delirium, and especially in malarial coma. Quinin injections are inadvisable in all cases suffering from any ulcerative septic disease, and in very young children. Ashley-Emile has found this plan most effective in reducing the temperature of persons who have by excessive daily usage established a tolerance for the drug, and in whom forty to sixty grains of quinin given by the mouth have failed to produce the desired result, when a single injection of five grains of quinin has lowered the temperature. He has made it a routine practice to exhibit quinin injections if on the third day the temperature still remains high without any signs of abatement, and without the least hesitation if the patient has been addicted to large doses of quinin as a prophylactic measure. The advantages this method has, in addition to those mentioned, are economy, and certainty and rapidity of action. The injection should be made deep into the deltoid and interscapular muscles, using the hydrochlorid of quinin.

Annales de l'Institut Pasteur, Paris.

Last indexed page 165.

18 (XVIII, No. 9.) Sur l'accoutumance à la tuberculine (means to detect habituation to tuberculin in cattle). H. Vallée (Alfort).
19 Production d'acide citrique par les citromyces. P. Mazé and A. Perrier.
20 •De l'influence de l'ingestion des bactéries et des produits bactériens sur les propriétés du sérum sanguin. A. Tchitchkine.
21 Mal de caderas chez les animaux domestiques et sauvages. Epidémies parallèles (trypanosoma affection in domestic and wild animals in Paraguay). M. Elmassian and E. Migone.
22 Tuberculose osseuse et troubles circulatoires et trophiques. N. Petroff.
23 (No. 10.) Les propriétés des antisensibilisatrices et les théories chimiques de l'immunité. J. Bordet.
24 Recherches sur la glycolyse des organs des mammifères. P. Portier.
25 Rabies in "Egyptian Rat."—La rage chez la mangouste ichneumon. C. Nicolle and J. Chaltiel (Tunis).
26 Virulence of Salivary Glands in "Passage Rabbits."—Virulence des glandes salivaires chez les lapins de passage. Id.
27 La rage expérimental chez le rat. Id.
28 (No. 11.) •Etudes expérimentales sur la syphilis. E. Metchnikoff and E. Roux.
29 Sur la composition chimique et la formule de l'adrénaline. G. Bertrand.
30 Agglutination of Red Corpuscles by Chemical Precipitates and Suspension of These Precipitates in Colloidal Media.—Agglutination des globules rouges par les précipités chimiques, etc. O. Gengou.
31 •La fièvre typhoïde expérimentale. J. Atlassoff.
32 Bactérium Zopfii (Kurth). N. Swellengrebel.
33 (No. 12.) Recherches sur l'assimilation de quelques substances ternaires par les végétaux à chlorophylle. P. Mazé and A. Perrier.
34 •Tétanos et quinine. E. Vincent.
35 Coloration des protozoaires. F. Marino.
36 Importance de l'examen bactériologique pratiqué sur les cadavres. R. B. H. Gradwohl.
37 (XIX, No. 1.) Recherches sur le sérum antirabique. A. Marie.
38 Culture de l'amibe de la dysentérie des pays chauds (tropical dysentery). A. Lesage.
39 El-debab. Trypanosomiase des dromadaires de l'Afrique du Nord. E. Sergent.
40 •Diagnostic histologique de la rage. F. Abba and A. Bormans (Turin).
41 Peste endémique, bubons climatiques, lymphangite infectieuse de la Reunion et erysipèle de Rio. Thiroux.
42 (No. 2.) Recherches morphologiques et experimentales sur Trypanosoma Paddæ. Thiroux.
43 Hémolysines naturelles. G. Mioni.
44 Distribution of Microbes in Infant's Intestine.—Repartition des microbes dans l'intestin du nourrisson. H. Tissier.
45 Determination quantitative du coli-bacille dans les eaux d'alimentation (in drinking water). A. Gautié.
46 (No. 3.) Etudes epidémiologiques et prophylactiques du paludisme en Algérie, en 1904. E. Sergent.
47 •Les tumeurs de la souris (of mice). Haaland (Christiania).

20. **Influence of Ingested Bacteria on Serum.**—Adult rabbits fed with living and killed typhoid bacilli did not develop anything resembling typhoid fever, but their serum acquired properties revealing the presence of agglutinins, fixators and sometimes precipitins. Young rabbits did not respond in this way, possibly because the absorption was less, or because their undeveloped organism was unable to respond with the production of these substances.

28. **Syphilis in Monkeys.**—In this third communication on this subject Metchnikoff and Roux relate further experiences and show the results in colored plates. They are convinced of the syphilitic nature of the lesions observed on the small monkeys (macaques). Their transmission to the chimpanzee and the development of both primary and secondary lesions on the latter is further proof. They believe that the prospects are good for obtaining a specific vaccine by passing the virus through the smaller monkeys, possibly combined with specific antiserums.

31. **Experimental Typhoid Fever.**—Atlassof has succeeded in inducing experimental typhoid fever by feeding very young rabbits with the germs.

34. **Tetanus and Quinin.**—Vincent's attention was attracted to the number of cases that have been reported in which tetanus followed an injection of quinin under aseptic precautions. He has been experimenting and reports that quinin injected into rabbits at the same time or following inoculation with tetanus germs, had an unmistakable action in favoring the development of the tetanus. This action was both local and general. As an instance he mentions that inoculation with tetanus on the other side of the body from an injection of quinin, was followed by symptoms of tetanus and the germs were found congregated, not at the point of inoculation, but at the point where the quinin had been injected, on the other side of the body. This favorable action occurs apparently only when the quinin is injected subcutaneously. The facts related suggest that when an injection of quinin is to be made in a person who has any sores or excoriations liable to shelter or allow the entrance of the tetanus bacillus, it would be wise to inject antitetanus serum at the same time.

40. **Histologic Diagnosis of Rabies.**—The facts reported from Turin by Abba and Bormans are practically the same as those summarized recently on page 1490. A list of 93 tests is given showing the complete concordance between the biologic test for the Negri bodies in the hippocampus major of the suspected animals and the results of Volpino's simple staining test. This requires merely 4 or 5 c.c. of a 10 per cent. solution of osmic acid in a test-tube with the sections of the tissue to be examined. It is left in contact for five or six hours, then rinsed under running water, when it is ready to be examined with the microscope. The Negri bodies have been found in the 10 human brains examined.

47. **Tumors on Mice.**—Haaland rejoices that we are entering on a new era in the matter of cancer. It has become a disease

that can be studied experimentally, he says, and no longer, as formerly, only at the bedside or on the cadaver. Moreau, Jensen and Borrel have demonstrated the inoculability of cancer by grafts of cells; Jensen has studied the nature of the tumors obtained by inoculation, and has commenced serotherapy; Borrel has rendered probable the infectious character under natural conditions, and, hence, the existence of a virus. Haaland's own researches have been with white mice, and he gives a number of plates of the epithelial tumors which he encountered on white mice and which generally displayed the characteristics of malignant tumors. Certain forms bear the closest resemblance to human cancer. The most frequent type displayed the characteristics of an infectious disease, with epidemic or endemic features in some instances. The introduction of a mouse thus affected into a cage of mice previously apparently sound resulted in the development of similar tumors on some of the other mice. This was especially noticeable in case of the epithelioma on the jaw and the malignant lymphoma of which he gives illustrations. Three of these forms produced metastases by cellular embolism; two others by way of the blood in the pulmonary vessels, and another by way of the lymphatics in the ganglia. Cancer cells may continue to grow when grafted into another animal. Certain small tumors noted in the lungs of the cancerous mice suggest the possibility that the cancer virus brought to the spot induced the proliferation of the epithelial cells at this point—not, strictly speaking, a metastasis. The intracellular inclusions, he thinks, can generally be explained as the relics of leucocytes which have made their way into the cancer cells.

Bulletin de l'Académie de Médecine, Paris.

48 (Year LXIX, No. 15.) Sur les vaisseaux sanguins des organes génito-urinaires du périnée et du pelvis (blood vessels of perineum and pelvis). Farabeuf.
49 *Anévrisme traumatique du tronc tibio-péronier ou de l'artère tibiale postérieure près de son origine, guéri par des injections sous-cutanées de sérum gélatiné. Le Dentu.

49. **Cure of Aneurism of Tibial Artery with Gelatin.**—Le Dentu reports the case of a young man who cut his leg, resulting in the development of a large aneurism at the bifurcation of the popliteal artery, with a pseudo-aneurism from distension of the cicatrix in the vessel. Extirpation of the sac would probably have required ligation of the anterior and posterior tibial arteries and of the peroneal. Before attempting such a serious operation, he injected 200 c.c. of 2 per cent. gelatinized serum, sterilized at 115 C. The injection was made in the buttocks. It was preceded by flexing the thigh on the leg as a means of controlling the blood supply. Seven injections were made in the period between November 23 and January 21, 1905, and at the latter date there was no trace of the aneurism except a minute hard bunch where the trauma had occurred. The patient was kept in bed a month longer, and was then completely well. Pulsation in the posterior tibial is normal.

Presse Médicale, Paris.

50 (No. 25, March 29.) De la fréquence de l'angine à spirilles et bacilles fusiformes. H. Vincent.
51 Sanitary Inspection of Schools. Aid of Fathers.—L'inspection sanitaire des écoles participation des pères de famille à cette inspection. H. Surmont (Lille).
52 Pastes in Dermatology.—De l'emploi des pâtes en dermatologie et pour le pansement des plaies superficielles. L. M. Pautrier.
53 (No. 26.) Application de l'extension continue aux fractures obliques de jambe (of the leg). L. Ombredanne.
54 *Lab-ferment et digestion lactée (of milk). L. Meunier.
55 Balnéothérapie et electrothérapie dans le rachitisme. J. Comby.
56 (No. 27.) L'intervention chirurgicale dans l'appendicite. J. L. Faure.
57 Foie flottant (floating liver). A. Martinet.
58 (No. 28.) Un téléphone modèle: le monophone. E. De Lavarenne.
59 Paralysie générale et syphilis. L. Marchand.
60 Traitement des dystrophies musculaires et des dystrophies générales par les mouvements actifs. P. de Champtassin.
61 (No. 29.) *Cytodiagnosis in Mumps.—Cytologie parotidienne des oreillons. J. A. Sicard and Ch. Dopter.
62 Conférences sur le sécret professionnel et l'avortement criminel (abortion). P. A. Lop.

54. **Lab Ferment and Digestion of Milk.**—Meunier has been studying the substance in the stomach which coagulates casein and has found that the amount varies within wide limits in different persons. Those with small proportions of this lab ferment are the ones who find difficulty in digesting milk. His research has shown that there is a close connection between the secretion of this substance and the digestion of fats. This is due, he thinks, to the way in which the lab ferment retards the passage of the milk along the intestinal canal, thus enabling it to be submitted longer to saponifying influences and thus favoring the absorption of the fat during the intestinal digestion. Defective digestion of the fat in milk, from absence of the lab ferment, may engender the intestinal troubles noted in some persons on a milk diet. He describes a method for determining the proportion of lab ferment in the stomach contents.

61. **Cytodiagnosis of Mumps.**—Sicard and Dopter obtain saliva directly from the parotid gland by introducing a short piece of a fine sound through the excretory duct of the gland. The saliva drips from the sound and is easily collected for examination. That taken from 32 persons free from mumps contained very few cells, not more than one or two to the field, but the saliva from 52 persons with mumps showed pathologic almost from the onset in 49 out of 52. It is easy by examining the saliva from the gland in this way to differentiate parotitis at any stage and to reveal the parotitic origin of certain affections of the testicles.

Semaine Médicale, Paris.

63 (XXV, No. 13, March 29.) *Preserves et conserves.
64 *Identity of Fourth Disease with "Scarlatinal Rubella."—L'identité de la "quatrième maladie" avec la "rubeole scarlatineuse." L. Cheinisse.
65 Effects of Humanitarian Bullets.—Les effects des balles dites "humanitaires."
66 (No. 14.) *L'asthénie. P. Londe.
67 (No. 15.) La notion de l'hérédité dans ses applications sociales. Editorial.
68 *Le pityriasis versicolor du thorax, signe indirect de la tuberculose pulmonaire au début. L. E. Bertrand.

63. **Preserves and Conserves.**—THE JOURNAL recently summarized an article by Ekelof on the diet in Arctic trips which used the term preserves and conserves in a special sense. The *Semaine Médicale* hails this use of the terms as destined to be generally adopted in medical literature. He restricts the term "conserves" to articles of food sealed in airtight cans, jars or bottles. The term "preserves," on the other hand, he applies in a more general way to food stuffs preserved from decomposition by any method, salting, smoking, freezing, sterilizing by heat, etc. Medical language has had no special word hitherto for articles of this class.

64. **Fourth Disease.**—Cheinisse sifts the literature on the subject of Dukes' "fourth disease," coming to the conclusion that it is identical with scarlatinal rubella. It is not a rubella, however, and he thinks that the proper name for it should be "epidemic pseudo-scarlatina." This locates and defines its characteristics and recognizes its autonomy.

66. **Asthenia.**—Londe's study of asthenia concludes with the remark that it is rather beneficial than otherwise in chorea, Addison's disease, peritonitis from perforation, diabetes or fever from any cause. The repose to which it condemns the patient husbands his strength. It should be respected, at least at first, and treatment should aim to second nature. Asthenia is sometimes a sign of cerebellar origin, but much more frequently it is of visceral and abdominal or sympathetic origin. The sympathetic is the source even in such widely differing conditions as peritonitis, grippe, diabetes, exophthalmic goiter, muco-membranous enteritis, melancholia, etc. The frequent association with the asthenia of vasomotor or secretory disturbances is the proof of this intervention of the sympathetic. Asthenia is evidently a morbid function of the great sympathetic in the same way as anguish seems to be the function of the bulbar centers of the sensory pneumogastric. He describes the anatomic relations between the cerebellum and the sympathetic which bring this to pass, adding that the same peripheral motor neuron or its vascular territory is interested both in simple asthenia and in absolute paralysis. In the former the trouble is merely functional, while in the latter there is some lesion. The rule to examine the state of the abdominal functions in every case of illness that presents itself, is even more imperative in case of asthenia, for the most frequent cause of the latter is in some disturbance in the abdominal sympathetic. Tonics are required only subordinately,

and stimulants are not really indicated except in case of extremely acute asthenia.

68. **Pityriasis Versicolor Sign of Tuberculosis.**—Bertrand stated that almost always when he has observed pityriasis versicolor on the thorax the patient was thin, easily catching cold, coughing a little but not expectorating, and the further course revealed that the pityriasis had been an accompaniment of incipient tuberculosis. This combination of tuberculosis with the cutaneous affection has been so constant in his experience that he regards it as the rule, and always examines for tuberculosis so soon as he notes the other.

Archiv f. Gynäkologie, Berlin.

Last indexed page 1568.

69 (LXXV, No. 1.) *Remote Results of Instrumental Dilation.—Spätfolgen des Entbindungsverfahrens nach Bossi. F. Lichtenstein.
70 Metabolism in Pregnancy.—Beitrag zur Kenntnis des Stoffwechsels während der Schwangerschaft. C. Hahl.
71 Beiträge zur Kenntnis der soliden Ovarial-Tumoren. A. Glockner.
72 Organ-Anlagen in den Ovarial-Embryomen mit besonderer Berücksichtigung pathologischer Vorgänge. Offergeld.
73 Ahlfeld und seine intrauterine Atmung (respiration). M. Runge.

69. **Remote Results of Mechanical Dilation.**—Lichtenstein has examined 18 women long after instrumental dilatation with the Bossi dilator, and found no evidences of injury from the instrument. In 4 cases there were small and in 2 larger lacerations of the portio, and in 1 there was a bilateral laceration of the cervix, but no parametritic changes could be discovered which could be attributed to the mechanical instrumental dilatation.

Berliner klinische Wochenschrift.

74 (XLII, No. 13, March 27.) *Ueber die parasitäre Theorie in der Aetiologie der Krebse (of cancers). E. v. Leyden.
75 *Die biogenetische Theorie der Geschwülste und die Aetiologie des Carcinoms. O. Israel.
76 *Aus dem Gebiete der Hydrotherapie. L. Brieger.
77 *Chronic Inflammation of the Lungs in Heart Disease.—Chronische Lungenentzündungen bei Herzkranken. D. Rothschild.
78 *Etiology of Malignant Tumors.—Was wissen wir über die Ursache der bösartigen Geschwülste. v. Hansemann. (Concluded.)
79 Ueber Wesen und Behandlung des Plattfusses (flat foot). C. Helbing.

74, 75 and 78. **Etiology of Cancers.**—These articles were summarized in the Berlin letter on page 1207.

76. **Hydrotherapy.**—Brieger is in charge of the Institute for Hydrotherapy connected with the Berlin University. In his address delivered at the twenty-sixth congress of the German Balneologic Association, held at Berlin in March, he demonstrated how the benefits of hydrotherapy are becoming better and better realized and how it is overcoming the prejudices of all. He stated that 70,000 different applications of hydrotherapy have been given at his institute, more than 10,000 patients having passed through his hands, and 93 scientific works have issued from the institute. He has had the training in hydrotherapy of 440 physicians from Germany and abroad, and of 283 students. He here reviews some of the principles of the science, among them the intensity of the action of hot water baths in chlorosis, nephritis, syphilis, and for young gouty subjects. Winternitz has established that these hot baths accelerate the oxidation processes more even than fever. Krebs and Mayer have also demonstrated that this form of hydrotherapy alone is able to change the number of blood corpuscles and the specific gravity of the blood. Local applications of heat in gout are made preferably with cotton wrung out of hot water and covered with rubber tissue. He has been ordering patients with chronic rheumatism or gout to drink a quart to a quart and a half a day of distilled water for a month or two. He has never noted any inconveniences from it nor any striking benefit. Corpulent persons are given exercise in tanks of water after a light bath and rub down. More and more water is allowed to flow into the tank and the temperature is constantly reduced, and the patient is instructed to keep the water constantly in motion, with an occasional rest.

77. **Chronic Inflammation of the Lungs and Heart Disease.**—Rothschild expatiates on the immunity to tuberculosis conferred by mitral stenosis. The congestion in the lungs caused by this defect seems to act in the sense of Bier's passive hyperemia and prevent the development of secondary tuberculosis. It is possible for a mitral defect to become installed after tuberculous lesions are already established, but the conditions then favor the cure of the primary lesion. Tuberculosis has no influence in preventing the development of a mitral or other cardiac defect. Kryger found only 10 out of 1,100 tuberculous cadavers with evidences of a heart defect, but he found 59 cases of healed or arrested tuberculosis in cadavers with pronounced heart defects. Cardiac defects seem to favor the development of other pulmonary affections besides tuberculosis. Rothschild has had occasion to observe 5 cases presenting a triad of organic affections, involving the myocardium or pericardium, the pleura and the lower lobe of the lung, a chronic fibrous process resulting from a primary inflammation of the connective tissue.. The primal disturbance is usually pleurisy and generally on the right side. This is followed by induration of the lower lobe; the spread of the process to the pericardium is manifested by arrhythmia. One of the patients is a woman of 41 who does not seem much incommoded by the severe changes evidenced by the arrhythmia, violent catarrh and infiltration of the lower lobe. The second patient is a woman of 63, and her trouble dates from 1872. She is occasionally disturbed by slight hemorrhage, but her mitral insufficiency and stenosis with aortic insufficiency have not prevented her from increasing in weight from 97 to 112 pounds in the last two years. A third patient is a woman of 42 with frequently recurring pericarditis and pleurisy who yet keeps in comparatively good health. He has never encountered but one man presenting this syndrome. Tuberculosis was excluded in each case by repeated examination of the sputa. Syphilis was probable in one case. Potassium iodid seemed to influence these cases favorably, as also carbonated baths and inhalations.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 1322.

80 (XXXII, No. 12.) Zur Korrektur des kongenitalen Klumpfusses (club foot). Nobe.
81 (No. 13.) Ossification in Goiters.—Ueber Knochenbildung in Strumen. E. Sehrt.
82 *Cachexia und Tetania thyreopriva. Lanz.

82. **Cachexia and Tetania Thyreopriva.**—Lanz has been experimenting for some years with thyroidectomized goats, using them for serothapy or breeding purposes. Among the 30 goats thus thyroidectomized at Berne only one developed acute tetania thyreopriva immediately after the operation. All the others exhibited cachexia in varying degrees or no disturbances at all, with no evidences of tetany. During the two years since he has resided in Amsterdam 20 goats have been thyroidectomized and he has been surprised to note that 9 of them developed tetany to which they succumbed in a few weeks. The thyroidectomy was done by the same person and by the same technic in every instance, and this striking difference in the results in Switzerland and Holland suggests some variation in the thyroid gland from the difference in climate, soil or something of the kind. Kocher and Reverdin at Berne and Geneva used to witness cachexia or operative myxedema follow total extirpation of the thyroid in the clinic, while Billroth in Vienna beheld tetany develop instead under the same circumstances. Lanz noticed ten years ago that the thyroid gland is degenerated much more frequently in Switzerland than elsewhere both in human subjects and in cattle, the latter in comparison with the imported Italian cattle. He suggests that experiments with a parathyroidin, made like adrenalin, might yield interesting results.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1322.

83 (XXIX, No. 12.) *Das Eklampsie-Gift (toxin). A. Dienst.
84 Perforator That Does Not Slip.—Ein neues Perforatorium zur volkommenen Sicherung gegen das Abgleiten. P. Zweifel.
85 (No. 13.) Changes in Ovaries with Hydatiform Mole and in Pregnancy.—Zur Frage der Ovarialveränderungen bei Blasenmole und bei normaler Schwangerschaft. J. Wallart.
86 Id. with Syncytial Tumors and Hydatiform Mole.—Id. bei syncitialen Tumoren und Blasenmolen. S. Patellani.
87 Intrarenal Tension as One of the Causes of Eclampsia.—Intrarenale Spannung als eine der Ursachen von Eklampsie. A. Mynlieff.

83. **Pathogenesis of Eclampsia.**—Dienst suggests that the cause of puerperal eclampsia may be sought in an abnormal communication between the circulatory systems of the mother and the fetus. He found that methylene blue injected into the umbilical cord immediately after delivery, caused the mother's urine to show traces of the stain in about a fifth of the cases, not in the others. Milk injected likewise into an umbilical artery or vein oozed from some of the larger vessels on the maternal surface of the placenta. His experiments were made with placentæ from 15 eclamptic women and also with 355 placentæ from normal childbirths. In 160 women thus tested one-fifth showed this phenomenon of blue urine. He further experimented with 3,452 mixtures of the blood of mothers and fetuses in 118 cases. In 24 instances he found that the maternal blood agglutinated or dissolved the fetal blood, acting like a heterogeneous blood. In 15 of these women the urine showed no trace of the stain after injection of the methylene blue into the placental vessels. All of these 15 women had had normal childbirths. The other women showed the blue urine, and 7 had developed eclampsia while the other 2 had exhibited severe albuminuria. He proposes, therefore, the theory that eclampsia is nothing more than the effect of transfusion of the heterogeneous fetal blood into the maternal circulation, that is, the effect of abnormal permeability of the placenta. He presents a number of further arguments to sustain this assumption.

Deutches Archiv f. klinische Medicin, Leipsic.

Last indexed page 993.

88 (LXXXII, Nos. 3-4.) Ueber das photodynamische und optische Verhalten der Anthracinone (behavior of anthraquinones). H. v. Tappeiner.
89 *Zur Behandlung der Haut-Carcinome mit fluorescierenden Stoffen (treatment of cutaneous cancer with fluorescent substances). A. Jesionek and H. v. Tappeiner.
90 2 Fälle von Atresie der Pulmonalis. Koller.
91 *Zur klinischen Diagnostik der intrathorakalen Erkrankungen. A. Grober.
92 Zur diagnostischen Bedeutung der Hämatemesis bei Appendicitis. Krehl.
93 Zur Kenntnis der Komplikationen der Polyarthritis rheumatica acuta von seiten der Haut (cutaneous complications). G. Riebold.
94 Bactericidal Action of Human Serum Against Typhoid Bacilli.—Ueber die bakterizide Wirkung des menschlichen Blutserums gegenüber Typhusbazillen (Nachweis des Zwischenkorpers). G. Hahn.
95 Id. in 60 Typhoid Patients.—Weitere Untersuchungen über die bakterizide Reaktion des Blutserums der Typhuskranken. Korte and Steinberg.
96 *Ueber suggestives "Injektions-Fieber" bei Phthisikern. F. Köhler and M. Behr.
97 Zur Serum-Therapie fibrinösen Pneumonie. H. Pässler.
98 Zur Kenntnis der Bence-Joneschen Albuminurie. F. Reach.
99 Relations Between Motor Functions of Stomach and of Intestines.—Zur Frage der Beziehungen zwischen Magen und Darmmotilität. E. Veiel.

89. **Treatment of Superficial Cancer with Fluorescent Substances.**—The 6 cases described showed marked improvement after injection or superficial application of fluorescent substances. The benefit seemed to be merely transient in some of the cases. The exposures after the application of the photodynamic substances were as extensive as possible, both sunlight and the arc light being used. The lesion was ulcus rodens in most cases.

91. **Signs of Intrathoracal Affections.**—Gröber expresses surprise that such scant attention is paid to the variations in the pupil reaction in incipient intrathoracal affections. A tuberculous apical affection is almost certain to cause iritation of the sympathetic and consequent dilatation of the pupil on that side, even from its very incipiency. The findings in Valsalva's experiment also differ from normal if there is any inflammatory process in the thorax. The large veins on the affected side swell up sooner and more prominently than on the other. The pupils also behave differently in Valsalva's experiment in case of an intrathoracal morbid process. The percussion findings over the manubrium are also different. A difference in the pupils after a deep inspiration is a sign of something wrong in the upper segment of the thorax. He has observed unilateral pulsus paradoxus with pleural adhesions in 3 cases.

96. **Suggested Fever in the Tuberculous.**—Köhler and Behr relate that in 10 out of 40 tuberculous persons who were given a sham tuberculin injection—water being used instead of the tuberculin—the temperature rose and headache, depression and lassitude were observed the same as in a positive tuberculin reaction. The same effects were observed also in 6 out of 20 persons, who were given merely a puncture without injection of any fluid. The temperature rose from .4 to 2.4 of a centigrade degree and remained high for about four hours in the majority, but in four cases the fever persisted for six to sixteen hours.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

100 (XXXI, No. 13.) *Prostata-Sekret und Prostatitis. Ein Beitrag zur Entzündungsfrage. C. Posner and L. Rapoport.
101 *Action of Roentgen Rays on Glands.—Ueber die Wirkung der Röntgenstrahlen auf Drüsen. A. Buschke and H. E. Schmidt.
102 *Sound in Intestines.—Ueber Darmsondierung. E. Rosenberg.
103 *Early Symptoms of Cancer in Throat.—Zur Kenntnis der Fruhsymptome maligner Tumoren des Nasenrachenraums. Stenger.
104 *Superheated Air in Nervous Affections.—Ueber Heissluftbäder bei Nervenkrankheiten. L. Jacobsohn.
105 Industrial Hygiene.—Gewerbehygienische Rundschau. E. Roth.
106 *Medical Indiscretions.—Aerztliche Unvorsichtigkeit. Neuhaus.

100. **Prostatitis Viewed from New Standpoint.**—Posner and Rapoport argue to the effect that the secretion of the prostate has many points in common with milk and colostrum. The granulations in the prostatic fluid consist of lecithin, which is secreted by the epithelium the same as the milk fat in the breast. Whenever, for any reason, the secretion fails to find a free outlet leucocytes migrate into the gland and the leucocytes devour the lecithin granules by phagocytosis. Certain cases of chronic inflammation of the prostate are merely this combination of circumstances; the infectious element is absent. The disappearance of the lecithin granulations from the fluid is merely the result of stagnation of the secretion with consequent inroad of leucocytes and their incorporation of the lecithin. If the mechanical obstacle to the escape of the secretions can be removed, the secretions find an outlet, the leucocytes cease to flock into the gland and the inflammation subsides. This class of cases is the one benefited by massage, hydrotherapy and electricity. In the presence of chronic prostatitis, therefore, it is of the utmost moment to determine whether the inflammation is of infectious origin or is the result of mere obstruction to the outflow of the secretion.

101. **Action of Roentgen Rays on Glands.**—In Buschke's experimental research the kidneys and testicles reacted in a different manner to the *x*-rays. The kidneys did not react except after very vigorous exposures, and then with a severe destructive process. In the testicles, even after comparatively slight exposures, extreme atrophy resulted, without traces of inflammation. Further experimental tests showed that the Roentgen rays were able to suppress the sweat secretion without appreciable injury to the skin or sweat glands. A case of hyperidrosis of the hands was treated with the *x*-rays. After a few exposures the sweat secretion was entirely suspended in the parts exposed and in the vicinity, without any appreciable injury to the skin. Pusey, Stelwagon and Müller have reported similar success in treatment of excessive perspiration.

102. **To Introduce the Tube High Up in the Bowel.**—This communication from Albu's clinic describes considerable research in this line. The final conclusion is that the "rectoromanoscope" is indispensable. With its aid it is possible to introduce the tube much higher than without it, and medicines can be applied directly to the points where needed, either as a fluid or dry powder. Without direct visual inspection it is generally impossible to introduce the tube beyond the entrance of the sigmoid flexure, but with it the tube can be passed to the middle of the flexure, and, under specially favorable conditions, as far as "Schiefferdecker's point," the left margin of the small pelvis. The tube is arrested at this point and attempts to introduce it further merely result in its rolling up on itself. Of all the tubes, sounds, etc., tested a 74 cm. long Jacques stomach tube, No. 12, proved the best adapted for the purpose. It was introduced with the subject in the knee-chest or knee-elbow position. A large number of persons submitted to the tests, the results confirmed by radiography.

103. **Early Symptoms of Cancer in Throat.**—Stenger emphasizes the importance of paying attention to symptoms on the

part of the nose, obstruction, etc., especially symptoms involving the nasopharynx, also to symptoms of a neuralgic character and ear symptoms. Attention to all these symptoms will in many cases disclose incipient malignant disease of the nasopharynx when none, taken alone, would ever suggest it. Even slight symptoms on the part of the nose should compel examination of the nasopharynx, and obstinate neuralgia should never be dismissed as "mere neuralgia" without search for some objective lesion. The most important early sign of cancer is the development of ear symptoms ushered in by a catarrhal affection of the tubes with neuralgic disturbances.

104. **Superheated Air in Treatment of Nervous Affections.**—Jacobsohn has been applying superheated air in the treatment of all kinds of nervous affections, but has found little benefit from it in the organic troubles. On the other hand, many cases of peripheral and functional nervous troubles were much relieved, some of them to a remarkable extent. The local applications of superheated air thus proved a great aid in polyneuritis, in all forms of neuralgia (supraorbital, sciatica and lumbago), in professional neuroses, in sleeplessness from anemia, in hysteric troubles and in muscular joint rheumatism.

106. **Medical Indiscretions.**—Neuhaus preaches in regard to the necessity of extreme discretion in writing articles for the medical press. His text is an article on syphilis in a recent exchange in which a number of case reports are given. The cases are cited by both initials, with the place, age, profession, aspect and time of infection. These particulars have not the slightest bearing on the subject under discussion, but if the article should fall into lay hands the parties could all be easily identified from the descriptions, and serious trouble might result. This did actually occur in the case of a physician of Luxemberg who published a similar article in the *Wiener medicinische Zeitschrift* some time ago, referring to residents of his city. The parties were recognized and severe penalties were imposed on him. Both authors and editors should bear in mind the possibility of trouble of this nature from these superfluous details.

Monatsschrift f. Geb. u. Gynäkologie.

Last indexed page 913.

107 (XXI, No. 1.) Innervation der weiblichen Genital-Organe. P. Jung.
108 Skopolamin-Morphin-Narkose. H. Ziffer.
109 *Zur Kasuistik des widerholten Kaiserschnitts (repeated Cesarean section). L. A. Kriwski.
110 *Cholecystitis im Wochenbett (in puerperium). Christiani.
111 *Zur histologischen Diagnose bei Frühstadien von Uterus-Tuberkulose (in early stages). J. Schottlaender.
112 Zur Diagnose des Kystadenoms serosum papillare ovarii. E. Fraenkel.
113 *Methodisches Kompression als typisches Heil-Verfahren in der Gynäkologie. L. Pincus (Dantsic).
114 (No. 2.) Intrauterine Respiration.—Die intrauterine Tätigkeit der Thorax- und Zwerchfell-Muskulatur. Intrauterine Atmung. F. Ahlfeld.
115 Dauer der menschlichen Schwangerschaft (duration of pregnancy). A. Blau and R. Cristofoletti.
116 *Lumbal-Anästhesie in der Geburtshülfe und Gynäkologie. J. Müller (Greifswald).
117 Zur Wertschätzung der Myom-Operationen. E. Essen-Möller.
118 Zur Kasuistik der submukösen Myome. R. Katz.
119 (No. 3.) *Zur Indikation und Methodik der Sterilisation der Frau. O. Küstner.
120 Mechanism of Differential Development of Sex.—Zur diff. Entwicklungsmechanik des Geschlechts. Weill.
121 Die Extraktion nach Müller. J. Lovrich.
122 Severe General Manifestations from Compression of One Ureter in Pregnancy.—Fall von einseitiger Ureterkompression, etc. Ahlefelder.
123 *Ueber kriminellen Abort. Puppe.
124 Closure of Peritoneum After Vaginal Hysterectomy.—Zur Frage des Peritonealverschlusses nach vag. Totalexstirpation des Uterus, nebst Bericht über 56 ausgeführte Operationen. Schütze (Königsberg).
125 Spontan-Heilung des Chorionepithelioms (case of spontaneous recovery). C. Fleischmann.
126 Fall ausgetragener ektopischer Schwangerschaft (pregnancy at term). W. Hannes.
127 (No. 4.) Birth of Twins with Over Three Days' Interval.—Zwillingsgeburt mit 3½ tägiger Pause zwischen der Geburt des ersten und zweiten Zwillings. H. Cramer.
128 *Puerperaler Uterus und Curette bezw. Behandlung des Abortes. H. Langes.
129 Perforation of Living Child in Maternities.—Perforation des lebenden Kindes in geburtshülflichen Anstalten. R. Katz.
130 Weitere Beiträge zur Technik der mechanischen Dilatation. E. Pollak.
131 *Zur Aetiologie und Therapie der weiblichen Urogenital-Fisteln. O. Vertes.
132 Zur Kasuistik des Adenoma hidradenoides vulvæ. C. Fleischmann.
133 Zur Tuberkulose der weiblichen Genitalien. H. Thomson (Odessa).
134 Ueber die Thure-Brandtsche Methode. F. H. Kumpff.

109. **Repeated Cesarean Section.**—Kriwski has found in the literature records of 73 cases in which Cesarean section was done twice; 13, three times, and 3 with four Cesarean operations on the same woman. Nine of these twice repeated operations were by various Russian surgeons. One of the latter cases is described in detail, to show how simple and easy the second Cesarean section proved. The adhesions simplified it, but the musculature of the uterus reacted very sluggishly to the metreurynter.

110. **Cholecystitis in the Puerperium.**—Christiani is inclined to believe that the rarity of reported cases of cholecystitis after childbirth is due to the difficulty of differentiating such an affection. He describes 2 cases in detail and emphasizes the fact that fever in the puerperium is not inevitably due to puerperal infection, but may be the result of cholecystitis or of appendicitis. Both of the latter should always be excluded before we diagnose puerperal pyemia. As a general rule, he remarks, we should resort to the knife rather sooner during the puerperium than outside of it. The possibility of involvement of the liver is more menacing during pregnancy and the puerperium than under normal conditions, while the gravid and puerperal states do not affect the chances of the operation unfavorably. Both of his patients recovered under internal treatment alone. The signs on which he relied as speaking against puerperal pyemia were the frequent bilious vomiting with slight peritoneal irritation, and the full, slow pulse. Nothing indicated involvement of the liver. Pinard and others have published 3 cases cured by operation, although the true state of the case was not discovered until about the tenth day.

111. **Histologic Diagnosis of Incipient Tuberculosis of the Uterus.**—Schottlaender thinks that the discovery of a tubercle is not necessary for the diagnosis of tuberculosis. The finding of a few epithelioid cells surrounded by giant cells, even loose in a cavity, is a clue. He has made a point of examining scraps of mucosa from every patient curetted, regardless of the clinical history of the case. He found changes in the epithelium in 10. In some of these cases there was a concomitant tuberculous process elsewhere, but the findings were evidently not specific for tuberculosis, as they occurred in several healthy subjects after abortion or normal delivery. His research further demonstrated that the reaction to the presence of the tubercle bacillus is not invariably in the line of the formation of tubercles. The reaction may be merely tissue changes of indeterminate character, not at all what we are accustomed to regard as tuberculous processes.

113. **Therapeutic Systematic Compression in Gynecology.**—The method of treatment here described is based on scientific empiricism, Pincus remarks. It is a familiar fact that the classic four-in-hand, rubor, dolor, calor and tumor, is essentially benefited by raising the limb, that is, by mechanically driving the blood out of the part. The effect is enhanced by compression applied in the form of a bandage wound around the limb from the periphery toward the center. An aching nerve can sometimes be relieved by pressing on it. Local compression for several minutes at a time or intermittently has cured a number of cases in his experience of clitoris onanism in case of indurated and edematous or hypertrophied clitoris, such as occurs in certain families. Local compression reduces the nervous sensibility and finally abolisnes it. Local cold applications benefit temporarily, but leave an injurious after effect, while hot applications do good both temporarily and permanently. The mucosa is liable to react to cold with a catarrhal affection. Pincus applies mechanical compression as a means of stimulating the circulation of blood by driving the blood toward the comparatively empty heart. He accomplishes this in seven typical ways, or by a combination of several of them. Raising the lower part of the body sends the blood to the heart. He calls this autotransfusion, and when accompanied by exercise of the parts, active autotransfusion. Another means of filling the heart is by saline infusion or rectal injections or by drinking a .9 per cent. salt solution. Still another means is by exercises in breathing, by the care of the skin or by mechanical suppression of normal menstrual bleeding (tamponing the young and steam obliteration of the uterine lining in the woman near the climacteric or in hopeless invalids). The autotransfusion is promoted by a mechanical

device which he has invented. It is like a large, round rolling pin, bulging irregularly in the center or on one side, with which the abdomen is massaged. This drives a large wave of blood toward the heart. Another rolling pin device has a middle part like a wheel, with which the plexuses along the spine or the celiac plexus are compressed as the wheel is rolled over them. Another rolling pin is curved to fit over the abdomen. These devices are illustrated, and Pincus has just published in book form a complete, illustrated description of this mode of treating chronic anemic gynecologic affections. He calls it "Belastungslagerung," which is the title of his recently published monograph. It contains a description also of his mode of applying compression and massage by the mercury and the air colpeurynter. The influx of blood to the parts as the compression is removed is one of the chief advantages of this mode of treatment. It is unnecessary to discuss whether suggestion is an important factor in the excellent results obtained. Let us heal and help, he exclaims, we can argue later. When the colpeurynter is in place the compression is slowly applied and then rapidly removed, with a brief interval, this alternation of compression and its suspension acting as a massage of the parts. It is indicated for the sympathetic neuroses, for defective involution of the uterus, for chronic affections in the parametrium and adnexa, free from exudation, for myasthenia and defective tonicity of the wall of vagina or rectum, and also for the chronic muscular constipation of women.

116. **Lumbar Anesthesia in Gynecology.**—Müller's experience with 20 cases has been decidedly in favor of spinal cocainization or tropacocainization for gynecologic operations that do not require the peritoneum to be opened. The anesthesia was complete for operations of an hour's length or under. When the peritoneum was opened the anesthesia was less reliable, but a few whiffs of chloroform rendered it complete.

119. **Operative Sterilization.**—Küstner resected through the vagina 2 or 3 cm. of each tube and sutured the openings into the uterus, in the 2 cases reported. Both refused to allow laparotomy, and further pregnancies were urgently contraindicated. Both the women returned a year or so later in the second or third month of pregnancy. He concludes from his experience that it is necessary to resect the entire tube to prevent conception later. The opening into the uterus should be carefully sutured, with a plastic covering, if possible.

123. **Criminal Abortion.**—Puppe reviews his medicolegal experience as an expert in a number of cases.

128. **Treatment of Abortion.**—Langes describes his experience with 32 cases of simple or complicated abortion, in private practice. There was no temperature in any case. His treatment is digital evacuation in case of a single abortion, curettement for repeated abortion, and, in case of preceding endometritis, always curettement after three or four weeks. He has thus treated 32 cases in his practice without temperature in any case.

131. **Urogenital Fistula.**—Vertes summarizes Döderlein's experiences with 24 cases of urogenital fistula.

Münchener med. Wochenschrift, Munich.

135 (LII, No. 13.) Die Bekämpfung des Status epilepticus (attempts at prevention and treatment). K. Alt.
136 *Ueber den Pulsus alternans und pseudo-alternans. F. Volhard.
137 *Einbruch eines karzinomatösen Ovarial-Tumors in ein intramurales Fundus-Myom. A. Bauereisen.
138 Congenital Hyperplasia of Left Lung with Rudimentary Right Lung.—Angeborene Hyperplasie der einen Lunge, etc. E. v. Graff.
139 *Injuries of the Kidney.—Ueber Nierenverletzungen. Habs.
140 Connection Between Eye Findings and Symptoms in Vagus Domain.—Ueber den Zusammenhang von abnormen Erscheinungen im Auge mit Symptomen im Gebiete des Vagus. O. Rosenbach.
141 *Therapeutische Notizen zur Syphilis-Behandlung. A. Lieven.
142 *Noch eine Mittellung über Balsamum peruvianum. Unschuld.
143 Dosage of Roentgen Rays.—Ueber die Köhlersche Röntgenröhre mit Vorrichtung zur therapeutischen Dosierung der Röntgenstrahlen. B. Walter.

136. **Pulsus Alternans and Pseudo-Alternans.**—Volhard describes from the clinic of the late Professor Riegel 4 cases of alternating pulse, giving ten tracings of the findings at different periods. They corroborate his assertions that the anomaly is due to lengthening of the contraction by more sluggish contraction of the smaller systole, combined with high pressure in the aorta. He admits a true alternating action of the heart in the human subject, a rhythmic alternation of vigorous and feeble contractions of the auricles, as well as of the ventricles. There is no disturbance in the rhythm at the heart, only at the pulse; the smaller pulse wave arrives too late. This delay in the pulse wave is not due to any disturbance in conductibility, but to the lengthening of the time of contraction and to the slower propagation of the small wave in the artery. This lengthening in the time of contraction is caused by the more sluggish contraction of the smaller systole and to the high pressure in the aorta as mentioned above. By the appearance of an extra-systole in the alternate period, the alternation becomes so pronounced that the second pulse may become intermittent. There is only a single form of true *pulsus alternans*, that with a retarded smaller wave. If this appears in the normal interval or earlier, the case is one of pseudo-alternans, simulated by extra-systoles. The delaying of the pulse obliterates the regularity and simulates a disturbance in the rhythm in case of true alternans, while in the pseudo form the disturbance in the rhythm is obliterated and regularity is simulated. The idea used to prevail that pulsus bigeminus was a very serious sign, but the opinion is gaining ground more and more that it can be of a very harmless nature sometimes. Volhard's impression is that the nervous form always appears in the ventricular type. The rare auricular type seems to occur more on a muscular than on a nervous basis.

137. **Irruption of Cancerous Ovarian Tumor into a Myoma in Uterus.**—Bauereisen's case was specially interesting from the fact that the patient had presented glycosuria for three years—ever since the first symptoms of the tumor had been noted. After the removal of the diseased organs the sugar vanished from the urine. The glycosuria must have been due to pressure from the tumor on the pancreas, which prevented it from supplying its glycolytic ferment to the blood.

139. **Injuries of the Kidney.**—Five cases of kidney injuries are described and various diagnostic points are emphasized. One patient was a man of 38, who fell on his left side on a car coupler and experienced severe pain at once, radiating to the testicles, bladder and urethra. The kidney region was tender but no tumor was palpable. The urine was free from blood, pus, albumin and sugar. The abdominal muscles were rigid on the affected side, but not on the other. The absence of hematuria was remarkable; it is usually one of the leading symptoms of injury of the kidney. It can be differentiated from hematuria from injury of the bladder by the regularity of the blood stain in the urine. When the injury is in the bladder, the last portions of urine are generally stained more with blood than the first portions. Oliguria is the rule, and if the sound kidney suspends its activity, by reflex action, the case usually terminates fatally. Determination of the freezing point will show whether the reduction of the amount of urine is a true oliguria. The absence of oliguria in the case above described was likewise an interesting feature. When the patient was dismissed a month after the injury there were no symptoms except tenderness in the left lumbar region and slight stinging pains under the left costal arch.

141. **Iodid in Treatment of Syphilis.**—Spencer's formula for potassium iodid combines various tonics with the drug, but the medicine looks and tastes like ink. Lieven has modified the formula while retaining its essential ingredients. The resulting fluid is limpid, durable and of a pleasant flavor, and with it the tendency to iodism can be avoided.

℞.	Potassii iodid	℥i	30
	Ferr. citr. ammon.	℥i	4
	Strychnin. nitratis	gr. 1/3	02
	Elæosaccharum menth. pip.	℥i¼	5
	Aquæ aurantii flor. q. s. ad	℥iv	120

One teaspoonful equals 1 gm. of potassium iodid. Dose one teaspoonful in a large amount of water, not less than a pint. (The elæosacchara are from the German Pharmacopeia and are made by triturating any volatile oil with sugar in the proportion of one drop of the oil to 2 gm. of sugar. These should be freshly made when wanted.)

142. **Peruvian Balsam in Mal Perforans.**—Unschuld has had very gratifying results from the use of Peruvian balsam in treating mal perforans on diabetics. He applies it as a salve with lanolin in these cases.

Russkii Vratch, St. Petersburg.

Last indexed page 1491.

144 (III, No. 11.) Rubber Gloves in Military Surgery.—Primyenenie guttaperchevykh pertchatok v voennoi chirurgii. V. G. Zoege von Manteuffel.
145 *Unusual Foreign Body in Vagina.—Ryedkii slutchai dolgoyetnago prebyvaniya enorodnago tyela vo vlagalishtchye. V. N. Orloff.
146 *Compulsory Seclusion of Alcoholics in Asylums.—O prinyditelnom pomyeshenii alcoholikov v lyetchebnitzy. F. E. Rybakoff.
147 *Rol psychotherapii v dermatologii. K. S. Agadzhaniantz.
148 (No. 12.) Ob iskrivleniyakh sheiki bedrennoi kosti (coxa vara and valga). G. I. Turner.
149 Study of Blood Supply to Heart of Warm-Blooded Animals.—O mechanismye pitaniya (resp. krovosnabzheniya) serdtza teplokrovykh zhevotnykh. I. A. Tchuevski.
150 *Esophagotomy to Remove Foreign Bodies.—O naruzhnom syetchenii pishtchevoda kak neotlozhnoi operatzii pri udalenii inorodnykh tyel. P. A. Baratinski.
151 Advantages of Operating Under Direct Roentgen Light.—Ob operatziyakh pod neposredstvennoi provyerkoi lutchami Roentgen'a. A. I. Galebski.
152 (No. 13.) *Early Symptoms of Syringomyelia.—Slutchai syrinomyelii v natchalnykh stupenyakh eya razvitiya. M. I. Lifshitz.
153 (No. 15.) *Deceptive Course of 2 Cases of Gastric Cancer.—O skryto protekayushtchem rakye zheludka. A. P. Favitzki.
154 *Study of Action of Drugs on Isolated Kidneys.—O dyestvii yadov na sosudy izolirovannykh potchek. V. V. Zakusoff.
155 High Tension Electric Currents in Surgery.—K primenyeniyu elek tokov (Tesla-d'Arsonval'ya) v oblasti chirurgii. P. M. Zhdanoff.
156 (Nos. 17-18.) Examination of Blood as Aid to Diagnosis and Treatment.—Znatchenie izslyedovaniya krovi dlya raspoznavaniya i lyetcheniya bolyeznei. K. I. Korovitzki.
157 Artificial Production of Microcephaly in Dogs.—Popytka iskusstvennago polutcheniya microcephalii u sobak. V. I. Danilevski.
158 Pharyngitis hemorrhagica. S. S. Preobrazhenski.
159 Microbes of Bubonic Plague and Bacilli Pseudo-Tuberculosis Rodentium Pf.—K morphologii i biologii mikroba, etc. S. I. Zlatagoroff.
160 Influence of Radium on Specific Hemolytic Serums.—O vliyanii radiya na spec. hemolytitcheskuyu syvorotku. P. P. Yagn.
161 Favorable Influence of Electric Phototherapy on Middle-Ear Affections.—O vliyanii kholodnago el. svyeta (lampotchek nakalivaniya), etc. O. S. Merrovitch.
162 Changes in Red Corpuscles as Early Sign of Lead Poisoning.—Izmyeneniya v krasnykh krovyanykh tyelakh kak rannii priznak svintzovago opravleniya. A. I. Lure.
163 Necessity of Oxygen for Action of Hydrolytic Ferments.—Neobkhodim li kislorod dlya dyestviya hydrolititcheskikh brodil? N. A. Sakharoff.

145. **Croquet Ball Thirty Years in Vagina.**—Orloff relates the case of a ii-para who had introduced a croquet ball into her vagina to relieve the distress caused by prolapse of the uterus. The croquet ball answered the purpose of a pessary so that the prolapse caused her no further annoyance. The ball was left undisturbed for thirty years, when she applied for relief from a fetid discharge from the vagina, aged 60 at this time. The ball was broken up with Doyen forceps and removed in pieces without trouble.

146. **Incarceration of Alcoholics.**—Rybakoff urges that when a habitual drunkard shows signs of mental impairment or of moral depravity he should be placed in an asylum at once, without wasting time in the inebriates' homes.

147. **Importance of Psychotherapy in Dermatology.**—Three interesting cases are related to demonstrate the unmistakable influence of psychotherapy on cutaneous affections. It controls the physiologic functions of the skin, and with it the skin can be restored to normal when reduced sensibility invites a skin affection. Mental conditions have great influence over the nerves of the face and elsewhere, and mental conditions can be modified by psychotherapy. It influences the blood supply to the parts by its vasoconstricting or dilating action, and will prove a valuable aid in dermatology as an adjuvant to the usual measures for certain cases. One of the cases described was that of a woman of 20, hysteric, anemic, and suffering from intercostal neuralgia with periodically recurring herpes zoster. Suggestion in hypnosis for a few times put an end to the neuralgic and cutaneous disturbances. In another young woman there were no evidences of hysteria; but recurring eczema of the face was treated by psychotherapy with prompt cure. In a third case more than 20 seances were required before the rebellious eczema of the hands yielded to treatment. This patient was an elderly neurasthenic male.

150. **Esophagotomy for Removal of Foreign Bodies.**—Baratinski agrees with other writers in affirming that esophagotomy at once to remove a foreign body has had no mortality. The deaths that have followed esophagotomy were due to the injuries inflicted by attempts to extract the foreign body by other means. He reviews the literature on the subject; it embraces 248 cases and 36 of this number, or 14 per cent., were reported by Russian writers. In a personal case described, an insane young man had swallowed a stone weighing 24 gm. and measuring 8.25 cm. in circumference. It had lodged 23 cm. down, but was easily removed by external esophagotomy about eight hours afterward, without any bad effects.

152. **Early Symptoms of Syringomyelia.**—Lifshitz describes the case of a patient, 17 years old, who presented evidences of loss or reduction of sensibility to pain and heat in various regions, incipient atrophy of certain muscles of the hands, and left scoliosis. The course of the case confirmed the presumptive diagnosis of syringomyelia. He has observed left scoliosis also in 2 other cases as an early symptom of syringomyelia.

153. **Deceptive Course of Cancer of Stomach.**—Favitzki describes 2 cases of gastric cancer which presented the aspect of a dropsical affection. One was diagnosed as alcoholic cirrhosis of liver with ascites, but the further course of the case corrected this diagnosis to cancer of the stomach as the usual symptoms became superadded. In the second case, the diagnosis was aortic insufficiency, and concomitant cancer in the stomach was not suspected. The patients were men of 50 to 60. In one case except for loss of appetite and strength there were no signs to call attention to the stomach, no vomiting, dyspepsia nor pains. The tumor caused by the accumulation of ascitic fluid simulated a tumor of the liver in the second case, and in the third the gastric cancer developed with the clinical picture of a heart affection. The rapid course of the affection was suggestive; in the first case there was also associated lymphadenitis, and in the second, signs of cerebral extravasation, which further masked the true disease. These cases and similar ones which he cites from the literature establish that a cause of this nature may be surmised in certain cases of rapid formation of ascites accompanied by progressive emaciation in persons at the cancer age.

154. **Action of Drugs on Isolated Kidneys.**—The kidneys were kept "alive" in Locke's solution, and the action of digitalis, cocain, adrenalin, etc., was tested on them. The influence of some of these drugs on the vessels was marked, but this effect ceased after the organs had been kept in the incubator until they were really dead.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

BEASLEY'S BOOK OF PRESCRIPTIONS. Containing a Complete Set of Prescriptions. Illustrating the Employment of the Materia Medica in General Use; Comprising also Notes on the Pharmacology and Therapeutics of the Principal Drugs and the Doses of Their Preparations According to the Imperial and Metric Systems, with an Index of Diseases and Remedies. Rewritten by E. W. Lucas, F.I.C., F.C.S., with an Introduction by A. Latham, M.A., M.D., F.R.C.P. Eighth Edition. Cloth. Pp. 366. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

SURGICAL DIAGNOSIS. A Manual for Practitioners of Medicine and Surgery. By O. G. T. Kiliani, M.D. Illustrated by Fifty-nine Full-Page Plates and by Engravings in the Text. Cloth. Pp. 449. Price, $4.50. New York: William Wood & Co.

A NURSE'S GUIDE for the Operating Room. Second Edition. Enlarged and Revised. By N. Senn, M.D., Ph.D., LL.D., C.M. Cloth. Pp. 204. Price, $1.75 net. Chicago: W. T. Keener & Co.

FRAMES AND LENSES. A Practical Treatise for Optometrists. Illustrated. By R. M. Lockwood. Paper. Pp. 87. New York: Frederick Boger Publishing Co.

THE JOHN CRERAR LIBRARY. Tenth Annual Report for the Year 1904. Paper. Pp. 50. Chicago: Printed by Order of the Board of Directors. 1905.

PRACTICAL PROBLEMS OF DIET AND NUTRITION. By M. Einhorn, M.D. Cloth. Pp. 64. Price, 75c. New York: William Wood & Co.

SURFACE ANATOMY. By T. G. Moorhead, M.D., M.R.C.P.I. Cloth. Pp. 150. Price, $1.50. New York: William Wood & Co.